

**The Delaware and Hudson Canal Company
Addendum III (December 31, 2020) to
S. Robert Powell's Twenty-four Volume Series on the
Delaware and Hudson Railroad**



Conglomerate rock is used in key structural positions throughout the four aqueducts that John A. Roebling built for the Delaware and Hudson Canal Company. The two large conglomerate rocks that are seen here in an abutment on the Delaware Aqueduct support the anchor chain to which are attached the cables that hold up the bridge.

By

S. Robert Powell, Ph. D.

Published by the Carbondale Historical Society & Museum, Inc.

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400 pages

This volume has been published

In Loving Memory and in Honor of Stacy L. Gardner

January 22, 1945--September 4, 2020



Stacy L. Gardner, Jr., 75, of Forest City passed away peacefully, September 4, 2020. He is survived by his wife, the former Ann E. Gursky.

Born January 22, 1945 in Carbondale, the son of the late Stacy and Helen Bucinell Gardner. He retired from the military and subsequent employment with the Defense Intelligence Agency after 33 years of service in 1993. He later worked for a few years as a private contractor for the National Geospatial-Intelligence Agency.

A lover of model trains and the outdoors, he also enjoyed numerous other hobbies.

Also surviving are a daughter Deanna; son Stacy and his partner Dottie; and daughter Tricia Brehm and her husband Dan; grandchildren Elise and Ariana, Jan Sparaney and husband Greg; sisters Joyce Brooking, Ann Janezic and her husband Tom, Barbara Allen and her husband Tom; and several nieces and nephews.

He was preceded in death by sister Mary Mindas.

Private services are through the Kevin M. Lesjack Funeral Home, 513 Main Street, Forest City.

In lieu of flowers, donations can be made in his honor to the Wounded Warriors Project, or another charity of your choice.

* * * * *



SRP to Ann Gardner, September 7, 2020:

Stacy and I met in October 2018, and began working together to record the history of the Delaware and Hudson Railroad. The intellectual partnership and active working relationship that we established at that time were a source of great pleasure for both of us and we were in high gear, doing research, right up to the time of his death on September 4, 2020. His extraordinary contributions to the history of the D&H are recorded throughout the three *Addenda* to my 24-volume history of the Delaware and Hudson Railroad.

Stacy had a remarkable engineering/technical eye, especially when it came to bridges and mechanical systems, and he examined carefully hundreds of D&H photographs and maps and identified and described, for the record, components of those photographs and maps that have never before been noted or documented by historians. His original contributions to the history of the D&H are many, and the recorded history of the D&H has been enriched significantly by his fine work.

In loving memory and in honor of Stacy Gardner, therefore, we are very pleased to dedicate this volume of D&H history.

S. Robert Powell
September 4, 2020

Ann Gardner to SRP, September 7, 2020:

Thank you for your kind words Robert. He loved what he was doing.

Fondly
Ann

Introduction

Remarkably, unpublished photographs, texts, research reports, and documents about the D&H continue to surface. At the same time, careful examination of existing D&H photographs and maps has brought to light data that were “unseen” by previous D&H historians. In addition, new first-person accounts by credible witnesses are recorded and new scholarly articles are written as present-day historians focus on the Delaware and Hudson Canal Company and the Delaware and Hudson Railroad.

All of those “new” data about the D&H that we have learned/discovered in 2020 must be captured and recorded for the record before they are lost forever. To capture and record those data, we have produced, therefore, *Addendum III*, which, like *Addendum I* and *Addendum II*, is to be seen as a repository for data that will one day be incorporated into the author’s twenty-four volume history of the D&H that was written and published in the period 2014-2018.

We are pleased to express here our thanks to Larry Rine (Claremont, NH), to Mike Bischak (Simpson, PA), and to the late Stacy Gardner (Forest City, PA), all of whom have made available for publication here important D&H material that they have produced/written, discovered, or collected that must be incorporated here, for the record, into the ever-growing body of data on the D&H.

Larry is an unofficial Internet detective, and has located there some very wonderful D&H materials and/or objects that have been scanned or photographed and presented here.

Mike is a professional photographer and many of his railroad photographs, as well as documents and photographs that he has scanned or collected, are presented herein. At the same time, he is an enthusiastic railfan who works as an engineer for the Reading Blue Mountain & Northern Railroad and whose on-the-job railroad experience and knowledge have been very valuable in identifying railroad sites and operating systems that are described/presented here.

Stacy had a remarkable engineering/technical eye, especially when it came to bridges and mechanical systems, and he examined carefully hundreds of D&H photographs and maps and identified and described, for the record, components of those photographs and maps that have never before been noted or documented by historians. His original contributions to the history of the D&H are many, and the recorded history of the D&H has been enriched significantly by his fine work.

Here, then, is what we have learned about the D&H in 2020.

S. Robert Powell
Carbondale, PA

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Delaware & Hudson data recorded by S. Robert Powell in 2020, all of which will ultimately be incorporated into the twenty-four volumes of D&H history written by him in the period 2014-2018:

1. A one-page map of the Honesdale Branch of the D&H:

On Thursday, August 22, 2019, Howard Zendle <mishpocha_axolotl@twc.com> wrote to S. R. Powell, as follows: “Hi Bob, / I hope you’ve had an enjoyable summer. I discovered in GM Best’s 1951 paper (which you list as a reference in the Honesdale Branch DVD; Best, G. M. “The Gravity Railroad of the Delaware & Hudson Canal Company,” *Railway & Locomotive Historical Society Bulletin* No. 82, April 1951, pp. 7-24) a Figure 2 which is a map of the complete Honesdale Branch with the Canaan Loop addition, Bushwick, an un-switch-backed Shephard’s Crook, and most of the features described in Page 10 of the Honesdale branch DVD. This is what I have pestered you about: a one page overview map of the Honesdale Branch with reasonable accuracy. In the next revision of the DVD, or however you handle addenda, I would suggest at least a reference to Best’s map, which is similar to that in Shaughnessy’s book without the Canaan Loop overdrawn. Or better yet, a copy of the Figure 2 map. /Just a thought! / Howard Zendle”

SRP reply, Friday the 23rd of August: “Thanks, Howard. I’ll give it my best to get a copy of the Figure 2 map from Best’s book, and include it in the next *Addendum*. / Robert”

2. The “Little Starrucca Viaduct” on the Jefferson Branch of the Erie Railroad between Carbondale and Lanesboro, 7.5 miles north of the Thompson station, is a well known site. On August 24, 2019, on *Facebook*, Mike Helbing (Metrotrails) posted the photo given here of “Little Starrucca”:



“View Looking North on the Trestle North of Thompson, Sometimes Called *Little Starrucca*”

3. Presented below is the first of four articles that S. Robert Powell wrote, in 2019-2020, on the four aqueducts that Johann A. Roebling built for the D&H. This first article (“Roebling’s System of Anchoring the Cables on the Four D&H Aqueducts”) was published in the September 2019 issue of the *Bridge Line Historical Society Bulletin*, pp. 16-17, 21, 28:

Roebbling's System of Anchoring the Cables on the Four D&H Aqueducts

By S. Robert Powell, Ph. D.

Among the remarkable features of the four aqueducts that Johann Augustus Roebbling built for the D&H is the cable anchoring system, designed and patented by Roebbling, that was used to anchor the suspension cables. The original patent, which was approved August 26, 1846, is in the J. A. Roebbling Collection, Archives and Special Collections, Folsom Library, Rensselaer Polytechnic Institute, Troy, NY. Attached to the patent is the drawing shown here titled "Plan of anchoring Suspension Chaines or Cables, invented by John A. Roebbling, Civil Engineer."

In his patent application for a new mode of anchorage applicable to wire bridges as well as chain bridges, Roebbling states: "My improvement consists of a new mode of anchorage, applicable to Wire Bridges as well as Chain Bridges. In place of resting the anchor plate directly against a stone wall I apply in my mode a system of timbers, which serve in a manner as a foundation for the superincumbent masonry, distribute the great pressure of the foundation plates over a large surface of masonry, reduce therefore its length or depth, and by its yielding and elastic nature, prevent the breaking of the anchor plates. I prefer curving the chains or cables below ground in place of continuing them straight. It is also my practice to surround all of the iron below ground by hydraulic cement and wall it in with solid masonry, in place of leaving an open channel as is the case in most Suspension Bridges. The cement with which I surround the chains or cables preserves them against rusting effectually. Where greater protection is desired, the chains may be enclosed in lead."

In speaking of the drawing, shown here, that Roebbling attached to his patent application, Roebbling states that that drawing "shows a longitudinal section of the plan of anchorage which has actually been applied by me to the new Monongahela Bridge at Pittsburgh. A similar plan was applied by me to the Suspension Aqueduct constructed by me. In both cases the suspension cables connect with anchor chains, made of solid bars. The last or extreme link occupys a vertical position, and every one of the short links rests upon a solid stone block, well bedded in the lower masonry. The bed plate to which the last link is attached is marked in the drawing by *A*. It is laid in a thick bed of hydraulic cement. On top of each anchor plate a platform *B* is laid down, of about 10 feet square and 8 inches thick, composed of 4 courses of two inch white oak plank, the courses crossing each other at right angles, and all spiked together with iron spikes. A thin layer of cement is spread over the anchor plate before the plank is laid down. An opening is left in the center of the platform for the passage of the chain *H*. The platform being well settled down, leveled and covered with cement, a course of timbers *C* is laid down next which extends to the abutment *E*. It is as wide as the platform *B* and composed of white oak sticks hewed 12 inches square and of even thickness. The two courses *C*, which are opposite each other, serve for the support of the resisting walls which support the pressure of the curved chains and also for the support of the main courses of foundation timbers marked *F*. This course is composed of about 13 white oak sticks, 12 to 15 inches thick, 40 feet long and extending all the way across the pit. It

serves for the support of the masonry the weight of which is to resist the pressure of the anchor plate. This body of masonry being about 40 feet long and 12 feet wide need not be very deep to offer a sufficient resistance to the pressure of the anchor plate. All of the timbers are copiously grouted with thin lime mortar for the purpose of preservation. They will never rot as they are deeply buried with ground and entirely excluded from the air. The success of the above plan of an anchorage which is entirely novel and original in all its features, has been demonstrated on the Aqueduct and Monongahela Bridge, lately constructed under my superintendence.”

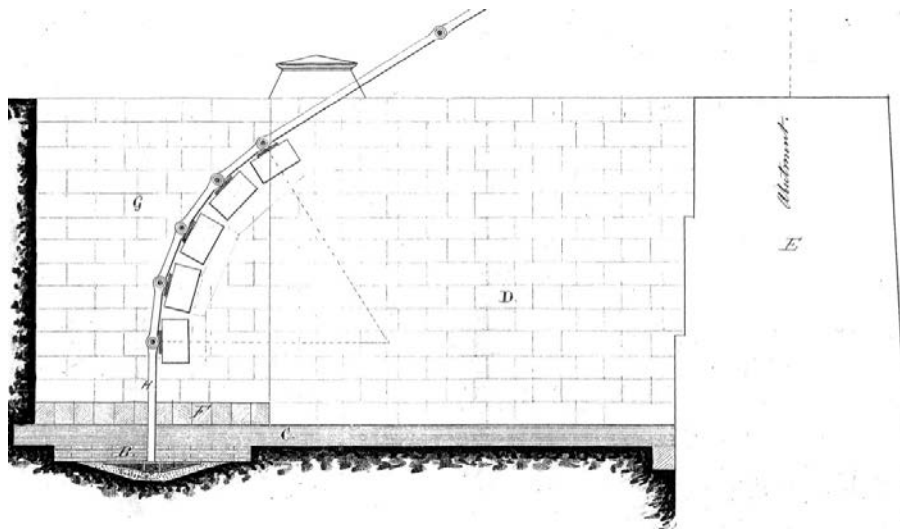
In summation, Roebling states: “What I claim as my original invention and wish to secure by Letters Patent is: The application of a timber foundation, in place of stone, in connection with anchor plates, to support the pressure of the anchor chains or cables against the anchor Masonry of a Suspension Bridge--for the purpose of increasing the base of that masonry, to increase the surface opposed to pressure, and to substitute wood as an elastic material in place of stone for the bedding of anchor places--the timber foundation either to occupy either an inclined position, where the anchor cables or chains are continued in a straight line below ground, or to be placed horizontally where the anchor cables are curved, as exhibited in the accompanying drawing, the whole to be in substance and its main feature constructed as fully described above and exhibited in the drawing.” The two witnesses who signed by patent application were Jonathan Rhule and Allen Millar.

Also shown here is a copy of Roebling’s plan--and a detail from that plan--for anchoring the suspension chains of the Delaware and Hudson Canal Company’s Delaware Aqueduct.

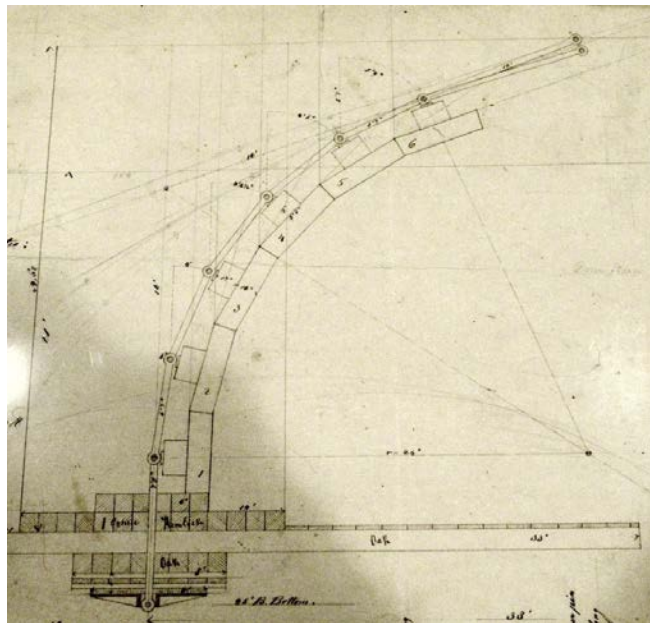
What can be said for the cable anchoring systems used at the other three Roebling D&H aqueducts? Given the nature of the terrain at the Lackawaxen and Neversink aqueduct sites, it is probable that the cable anchoring system that was used by Roebling on the Delaware Aqueduct was also used on the Neversink and the Lackawaxen Aqueducts. At High Falls, on the other hand, given the rocky nature of the abutment sites there, Roebling used, in the East abutment for certain, a cable anchoring system adapted to that rocky site. That we know from a drawing in the Roebling archives, shown here, that Roebling titled “East Anchorage High Falls Aquaduct”. (In his papers and notes, Roebling invariably misspells “aqueduct”). We have not yet learned, however, how the cables are anchored in the West abutment at High Falls.

* * * * *

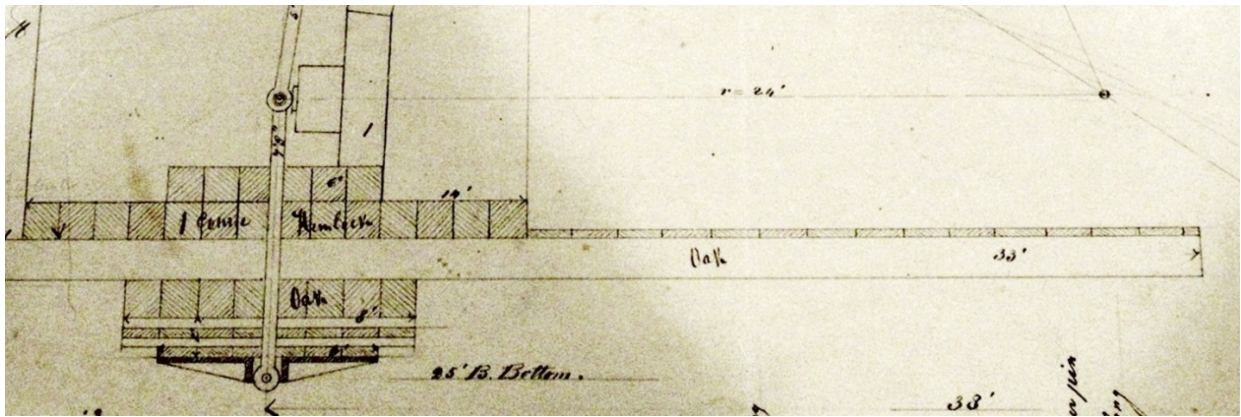
There are four photographs in this article:



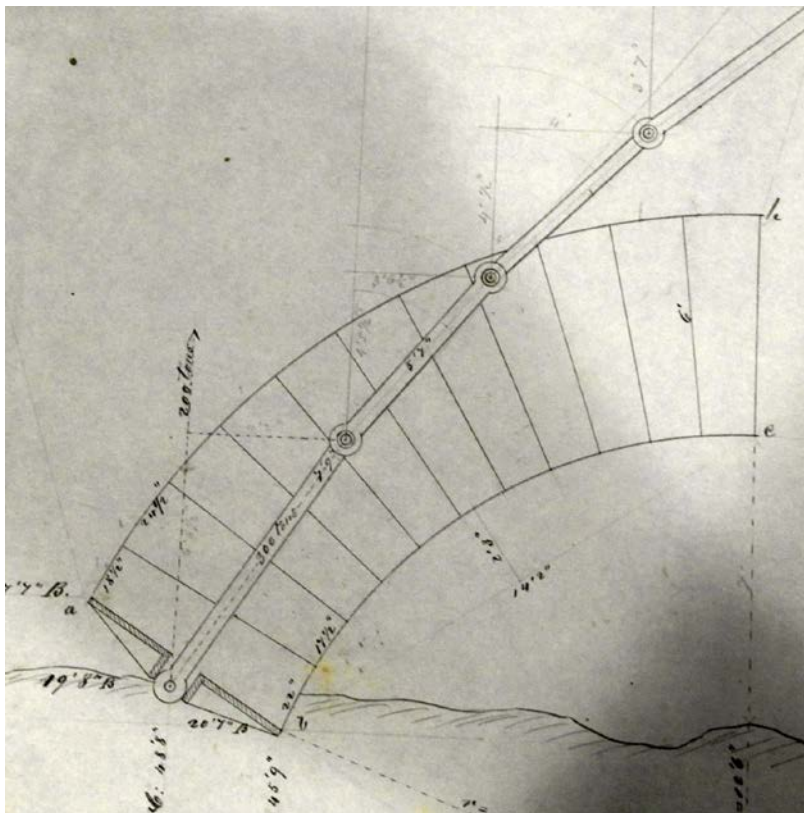
“Plan of anchoring Suspension Chaines or Cables, invented by John A. Roebling, Civil Engineer.” This is a Xerox copy of the drawing by Roebling that is attached to Roebling’s patent and dated “Pittsburgh, Pa. May 1846”. The drawing was witnessed by Jonathan Rhule.



This is Roebling’s plan for anchoring the suspension chains of the Delaware and Hudson Canal Company’s Delaware Aqueduct. The original of this drawing by Roebling is in J. A. Roebling Collection, Archives and Special Collections, Folsom Library, Rensselaer Polytechnic Institute, Troy, NY.

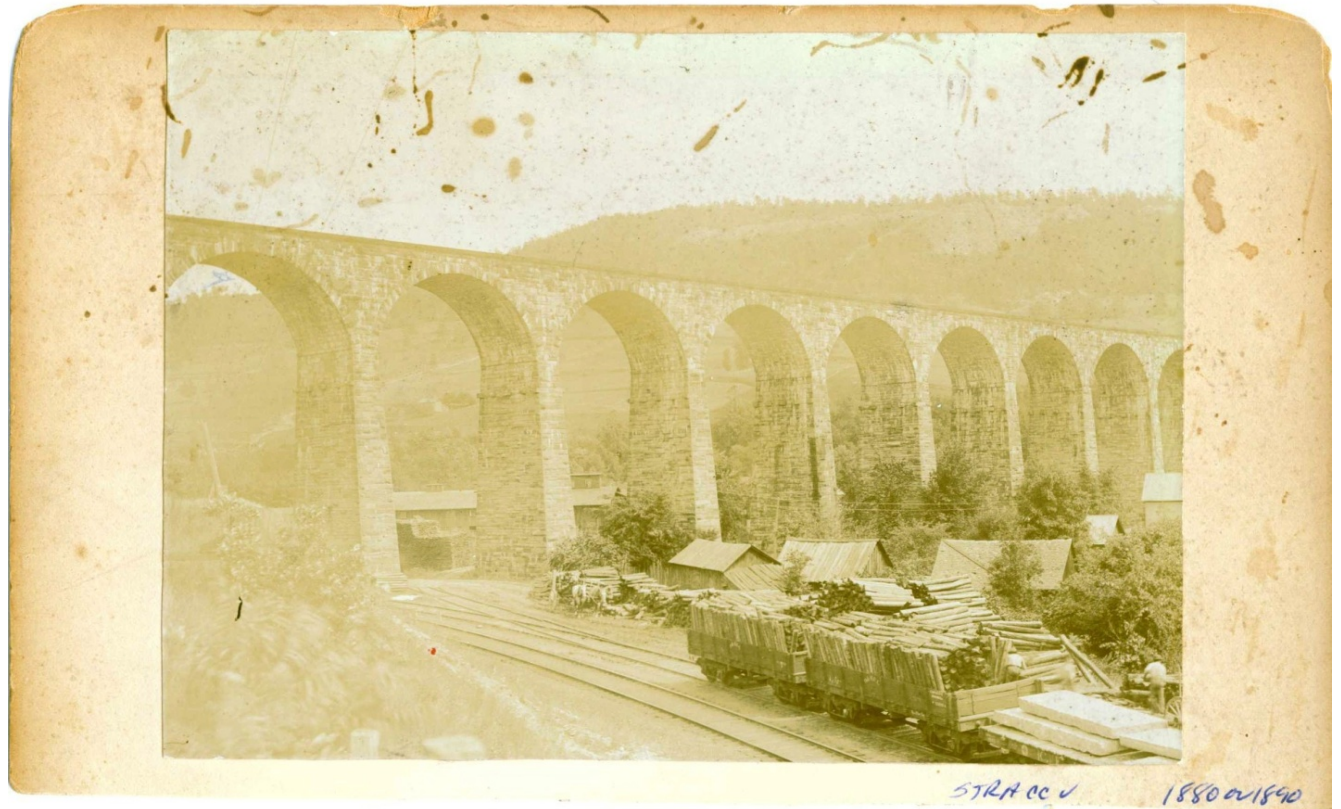


This is a detail of Roebling's plan for anchoring the suspension chains of the Delaware and Hudson Canal Company's Delaware Aqueduct. Photo by S. R. Powell.



In the Roebling papers at RPI, Roebling titled the cable anchoring system shown here as "East Anchorage High Falls Aquaduct". Photo by S. R. Powell.

4. The photo given here of the Starrucca Viaduct, at Lanesboro, PA, was posted by Chris Murphy on *Facebook* on August 28, 2019. This is a very early photograph, by an unidentified photographer, of this remarkable bridge:



"Starrucca Viaduct"

5. D&H/Pennsylvania Coal Company court battle: Seven of the eight volumes of these “pleadings and testimony” (Volumes I, II, III, IV, V, VII, and VIII) can now be read on-line at www.hathitrust.org (a hard copy of Volume VI is in the library at Plymouth State University, Plymouth, NH). We have read the seven volumes on line. Given the vast quantity of data about the D&H Canal presented in those seven volumes that is not reported in existing D&H Canal histories, we can state, with complete assurance, that every text now in print on the D&H Canal will have to be revised/updated in the years ahead:

SUPREME COURT,

ULSTER COUNTY.

THE PRESIDENT, MANAGERS AND COMPANY
OF THE DELAWARE AND HUDSON
CANAL COMPANY,

vs.

THE PENNSYLVANIA COAL COMPANY.

PLEADINGS,

And Testimony taken before J. H. Dubois,

REFEREE.

SCHOONMAKER & HARDENBERGH,

Attys. for Plaintiffs.

WM. & B. CUTTING,

Attys. for Defendants.

NEW YORK:

W. C. BRYANT & CO., PRINTERS, 41 NASSAU ST., COR. LIBERTY.

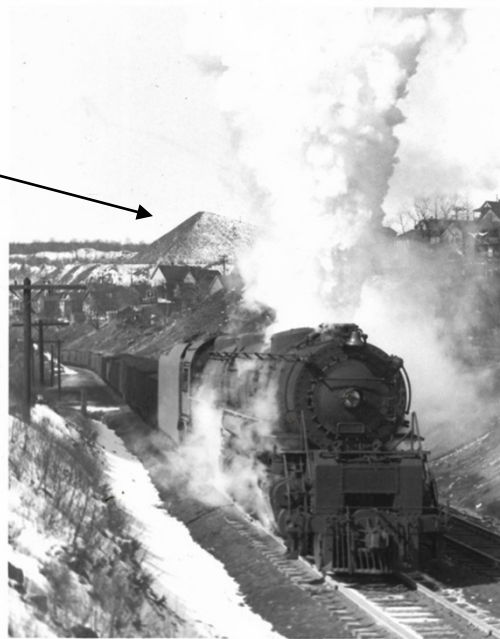
1858.

6. Here are three very remarkable D&H photos that Walter Kierzkowski posted on *Facebook* on September 1, 2019:



D&H No. 500, Passenger Train from Carbondale to Scranton. Photo posted on Facebook on September 1, 2019 by Walter Kierzkowski:

The well known culm pile--which is referred to as "the mechanical" by many residents of Simpson.



D&H Challenger, Heading North, at Simpson. Photo posted on Facebook on September 1, 2019 by Walter Kierzkowski.

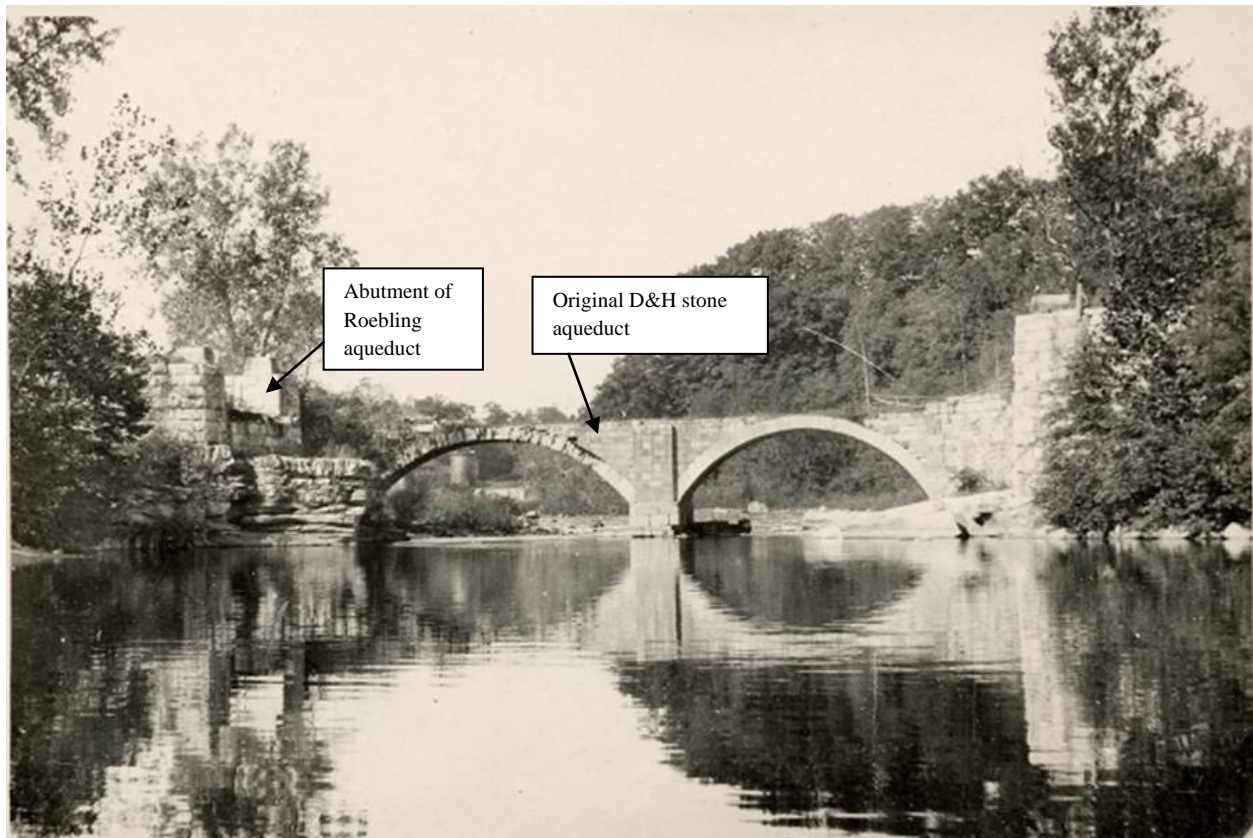


Three D&H Pushers (1200s) at Simpson. Photo posted by Walter Kierzkowski on Facebook, September 1, 2019.

Map of the City of Carbondale, PA. The map shows the city's street grid, the Susquehanna River, and the Erie Railroad. Key locations include Carbondale Mach. Co., Fall Brewery, J.A. Hoole Lumber Co., and the Western Railway. The map is oriented with North at the top, indicated by a compass rose. A scale bar is located in the bottom right corner.

Honesdale
Branch of the
Delaware and
Hudson Railroad

8. Stone aqueduct at High Falls (in the background) and the Roebling aqueduct abutments; the Roebling aqueduct burned /was burned down by vandals in 1914:



“The original stone aqueduct [up-river from the Roebling aqueduct] and the Roebling suspension aqueduct [abutments], High Falls, NY.” The stone aqueduct functioned as a bridge until it was demolished by local philistines not associated with the D&H Canal preservation movement, in 1956. Photo in the collection of the D&H Canal Museum, High Falls, NY.

D&H Canal Museum Facebook post, September 2, 2019: “It was on this day, September 2nd, in 1826, that the keystone was laid for the stone aqueduct over the Rondout Creek in High Falls, NY. It cost \$5,000 to build the aqueduct. The Freemasons attended and conducted a lavish ceremony. Food was supplied by "Mr. Pine of Kingston" but everyone met at Simeon DePuy's Tavern. The aqueduct was deepened in 1844 and 1847 but couldn't be widened in the 1850 final enlargement, when it was replaced by a John Roebling suspension aqueduct in 1850. The locals used it as a foot bridge until the local utility destroyed it in 1956, ostensibly for safety reasons. You can see the keystone today- it's in front of Lock 16 on our Five Locks Walk.”

9. *L. F. Loree and the D&H Agents, September 8, 1924, at Hotel Champlain.* This photo was posted on Facebook/D&H group on September 2, 2019 by Jeff Ullman:



“D&H Agents at Hotel Champlain, Sept. 8, 1924”; Brush Studio, Plattsburgh, N.Y.

Here are two details of this photograph:



Comment posted by SRP on 09-02-2019 on Facebook: “There’s Loree, tenth from the left, front row.”



10. *D&H Canal Boat Pass*. This item, which Larry Rine spotted on E-Bay on October 8, 2019, was offered for sale there for \$495:



(Back of permit is blank)

11. 150th Anniversary Commemoration, Avondale Disaster, September 6-9, 2019:

**Pennsylvania Labor History Society
47th Annual Conference
150th Anniversary Commemoration
Avondale Mine Disaster**



September 6 - 8, 2019

Thanks to these following sponsors for supporting the Avondale Commemoration:



Friday, September 6, 2019

6:30 pm, Anthracite Heritage Museum, Scranton:

Anthracite Coal Breakers of the Avondale Era: An Overview of the Early Stereographic Record

Lecture by Richard Healey, Professor of Geography,
University of Portsmouth, England

7:30 pm, Anthracite Heritage Museum, Scranton:

Anthracite Coal Breakers of the Avondale Era: An Exhibition of Early Stereoviews, circa 1860-1885

Opening for exhibit arranged by John Fielding, Curator
and Richard Healey, Academic Coordinator

Saturday, September 7, 2019

9:30 am, Anthracite Heritage Museum, Scranton:

The Welsh of Scranton during the 1860s and 1870s

Lecture by William Jones, Professor Emeritus of History
and former Director of the Welsh-American Center,
University of Cardiff, Wales

11:30 am, Washburn Street Cemetery, Scranton:

Tribute to the Avondale Mine Disaster Victims

Program hosted by Richard Sedlisky with description of the site;
dedication of new marker listing the names of each of the 58
victims buried here, all of Welsh heritage; memorial service;
reading of the victims' names by Avondale descendants and local
students; and Welsh music; Saul Schniderman will perform the
Avondale Ballad. *If inclement weather, program will be
at the Anthracite Heritage Museum.*

1:30 pm - 3:00 pm, Anthracite Heritage Museum, Scranton:

The Avondale Disaster of September 6, 1869

An overview and panel discussion moderated by Bode Morin,
Administrator, Anthracite Heritage Museum with:

- *The Railroads*: Richard Healey,
Professor of Geography, University of Portsmouth, England
- *The Causes and Consequences*: Robert Wolensky,
Adjunct Professor of History, Kings College, Wilkes-Barre
- *The Cultural Context*: William Jones,
Professor Emeritus, University of Cardiff, Wales

Saturday (cont.)

3:15 pm - 4:45 pm, Anthracite Heritage Museum, Scranton:

Remembering the Avondale Disaster

Panel Discussion moderated by Mark Riccetti Jr., Director of Operations and Programs, Luzerne County Historical Society with:

- Steve Kondrad, Plymouth Historical Society
- Robert Hughes, EPCAMR
- Torry Watkins, Avondale Commemoration Committee
- Bill Best, Huber Breaker Preservation Society
- Fiona Powell, The Guild of Brythonic Tradition Bearers

6:00 pm, Anthracite Heritage Museum, Scranton:

Pennsylvania Labor History Society (PLHS) Dinner

Welcome by Bode Morin with musical entertainment by Jay Smar
2019 PLHS Awards presented by Ken Wolensky, President, PLHS
with citation from Eddie Day Pashinski, PA House of Representatives

- *William Sylvis Award:* **Walter Klepaski**,
United Way Labor Liaison, Greater Wilkes-Barre Area Labor Council
- *John Brennan Award:* **Paul Tucker**,
Author and Editor of The Union News
- *Mother Jones Award:* **Robert Wolensky**,
Adjunct Professor, King's College

Sunday, September 8, 2019

Presented by the Plymouth Historical Society (PHA)

10:00 am, First Welsh Baptist Church, Plymouth:

Memorial Service

Noon, Avondale Disaster Site, Plymouth Twp.:

150th Anniversary of the Avondale Mine Disaster

Memorial Program hosted by Steve Kondrad, President, PHA
and a performance of *The Avondale Ballad* by Don Shappelle

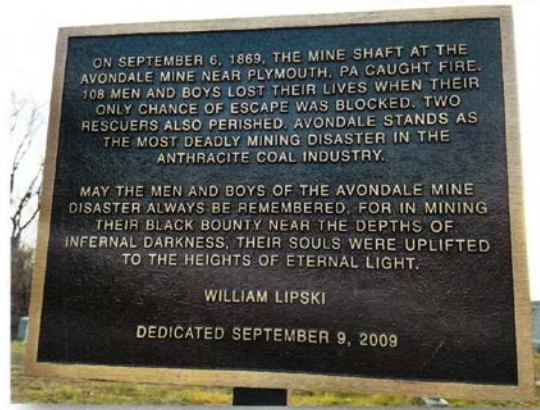
1:30 pm, Plymouth Historical Society headquarters, Plymouth:

Refreshments and Fellowship

Thanks to our Presenting Partners:

Lackawanna Historical Society, Anthracite Heritage Museum,
Luzerne County Historical Society, Plymouth Historical Society,
Pennsylvania Labor History Society

150th Anniversary Commemoration Avondale Mine Disaster



Washburn Street Cemetery Memorial Program

September 7, 2019

Welcome and Introduction

Richard Sedlisky

Opening Remarks

Patrick O'Malley, Commissioner
Lackawanna County

Dominic Graziano, Owner
Washburn Street Cemetery
Abington Hills Cemetery

Avondale Ballad

Saul Schniderman

Invocation

Rev. Richard Baskwill
Rehoboth Welsh Church, Delta, PA

Hymn #1

Calon Lan
John Decker
Organist

Reading of Names



Evan Bernardi

Owen Bernardi

Mary Beth Kondrad
(descendant of John D. Evans)

Penny Harris Reynen
(descendant of John Harris)

Fiona Siobhan Powell
(James Powell, William Powell)

Linda Jones Lispi
(descendant of David Rees, Sr.,
William Rees, David Rees Jr.)

Jan Lohmann

Memorial Tribute to Miners

Rev. Richard Baskwill

Hymn #2

Penpark

John Decker

Organist

Closing Remarks

Robert Wolensky, Ph.D.

Professor Emeritus of Sociology,
University of Wisconsin-Stevens Point
Adjunct Professor of History,
King's College, Wilkes Barre

Benediction

Rev. Richard Baskwill

Rehoboth Welsh Church

Hymn #3

Cwm Rhondda

John Decker

Organist

Avondale Washburn Committee Members

Steve Kondrad, Mary Beth Kondrad,
Bill Landmesser, Bode Morin, Aimee Newell,
Mary Ann Savakinas, Richard Sedlisky,
Torry Watkins, Ken Wolensky, Robert Wolensky

Avondale Presenting Partners

Anthracite Heritage Museum,
Lackawanna Historical Society,
Luzerne County Historical Society,
Pennsylvania Labor History Society,
Plymouth Historical Society

***A special thanks to Beverly Rugletic
for her invaluable help with the program.***

--Presentation by Richard Healey (School of Environment, Geography and Geosciences, University of Portsmouth, UK): "Anthracite Coal Breakers of the Avondale Era: An Overview of the Early Stereographic Record" and the exhibit, "Anthracite Coal Breakers of the Avondale Era: An Exhibition of Early Stereoviews, circa 1860-1885": Both very interesting. Strong emphasis on the middle and southern coal fields.

- A stereoview by Beckwith of the re-built Avondale breaker is known to exist but has been missing for 40 years.
- Do any photos of the Diamond Breaker in Scranton exist?
- The primary anthracite stereo photographers: Thomas Johnson (300 Lackawanna Avenue, Scranton), Allen, Beckwith, Schurch, Kleckner, Hensel (Port Jervis, 1875-1878, Hawley after 1878)
- "The Land We Live In": a stereographic series by Hensel
- Photo in exhibit of Avondale breaker: Watson Bunnell
- Photo in exhibit of Kingston Coal Co. No. 2 Breaker: Hensel
- Photos in exhibit of Gypsy Grove breaker (c. 1870 to 1911, when it burned down) by Schurch, PCC breaker, Dunmore
- Two photos in exhibit of Racket Brook Breaker by Hensel

--Presentation by William D. Jones (Professor Emeritus, University of Cardiff, Wales): excellent presentation. His book, *Wales in America: Scranton and the Welsh 1860-1920*, is excellent. Many citations from his book in my 24-volume D&H series. WDJ: "Hyde Park was known as *The Athens of America* in the late nineteenth and early twentieth centuries. Sixty Welsh poets were here." SRP mentioned to Bill Jones that his father's maternal grandfather, James W. Reese, from Hyde Park, was the Welsh bard *Athenydd*. Bill Jones immediately replied: "From Aberdare?" SRP: "Yes, from Aberdare."

--Program in Washburn Street Cemetery, hosted by Richard Sedlisky: very nice memorial program. Several descendants of the men killed at Avondale were present, including people who came from Wales for the commemoration program.

--"Avondale Disaster, An Overview"--panel discussion:

- *The New York World*, *The New York Herald*, *The New York Times*, *The Scranton Republican*--but not the *Scranton Times*--all described the fire at Avondale as arson (the WBA was an Irish union; the 50 Irish miners/laborers who worked at Avondale did not go to work on September 6; the smell of kerosene was discovered in the tunnel following the fire; in deathbed confessions, two of the Irish miners/laborers who worked at Avondale said "We set the fire.")

--Program: "Remembering the Avondale Disaster": excellent panel discussion by local historical groups and individuals who are the primary promoters and guardians of the Avondale site. We are all indebted to them (see program for names) for their dedicated and fine work.

Torry Watkins' write-up of the Avondale Commemoration weekend, as published in *Ninnau*, November-December 2019, is given below. Regrettably, more than half of the article is about Torry Watkins and his family, and not about the Avondale Commemoration programs and events.

Avondale At 150: The Event and the Symbol

By Torry Watkins

When it comes to commemorating the Avondale Disaster, I'm definitely the new kid at this table, and looking around the room, I'm not sure I have anything to say that most people haven't already heard, but it didn't take me long to realize that Avondale was not just a physical and historical event, but of equal importance, it was a powerful symbol of so many things: The economic and social significance of the Industrial Revolution; the struggles of our immigrant ancestors and how they compare, or not, with those of today's immigrants; the building of cohesive communities; the struggle for social justice and the rights of common people. They say the main thing that distinguishes homo sapiens from other species is our ability to manipulate symbols, so I'll invite everyone to freely indulge in their own symbolism around Avondale. Meanwhile, with your indulgence, I'd like to go off on a personal tangent for a bit, and try to show an aspect of Avondale's symbolism for me.

When I was growing up here in the Valley, Avondale wasn't exactly a household word, but there weren't many families, businesses or institutions that weren't somehow connected to anthracite. This was the 40s and early 50s; during the war years, anthracite had been given a new lease on life; the Sunday night breaker whistles up and down the Valley told you which collieries were going to work that

week; the steam railroads, all five of them, were depositing their soot on my mother's laundry line every Monday. From our house in West Scranton, the shortest walk to my high school was a straight line down across the DL&W tracks, over the culm banks at the ruins of the Diamond Colliery, and the ruins of the Mount Pleasant Breaker, across the O&W tracks, then across the D&H tracks.

When my path took me out of the Anthracite Region; the military; college; marriage and family, little did I realize that I would some day be pulled back in by something called the Avondale Disaster and the need to validate my anthracite (and Welsh) roots and maybe even get to play a bit part in the historical panorama. And although I left the Valley, as did so many young people those days, it became clear to me that the Valley never left me. I feel privileged to have grown up in the Anthracite Region. It was a place, a time, and a people unlike any other. One constant that remained with me all my life was my sense of coming from a family of Welsh miners who were singers, choral conductors, and organists, and even a few harpists. I eventually started doing what so many people are doing these days: researching my roots and making amazing discoveries.

Nearly everyone in my immediate and extended family were employed somewhere in the industry. My parents met while working in the D&H offices. My mother's father was a well-



Hymn singing to mark the 150th anniversary of the Avondale disaster

known driller and shaft-digger who worked both Anthracite and Bituminous. My last relative to have worked in the Anthracite industry was carried out of the Marvine Colliery workings on a stretcher around 1949. That was Uncle Jim the fire boss, who had a heart attack at the Marvine coal face. But it was my father's family who really established what I call my personal symbolic connection to Avondale. This connection, I'll admit, is more vicarious than real, but in my own mind the Avondale story is, or could be, my family story. I say this because my paternal family, at the time they immigrated, were the exact contemporaries of the

Avondale men and boys, and but for an accident of geography, the fact that they lived just a few miles away, and worked for the same company, but in a different colliery, it could have been part of my own family down there on that fateful day.

My paternal great-grandfather emigrated from South Wales around 1862 with two of his brothers, and they went to work at the DL&W Taylor shaft mine. Great-grandmother and five kids followed him over from Wales in 1870, and soon the family had 11 children, of whom my grandfather was the middle boy out of seven. All seven boys eventually followed their father into the Taylor

significance of the Washburn Cemetery in that history. Professor Bob Wolensky reviewed for the audience the entire sweep of the Avondale Disaster and its significance in the Industrial Revolution here in North America. Bob's seminar attracted an overcapacity audience of about 100, that crammed itself into a Hilton Convention Center meeting room. I'm glad the fire marshal didn't decide to make an appearance that day.

Following the seminar, we took a busload of people to the cemetery for another presentation by Rick Sedlisky and others, on the Avondale burials. These activities made a lasting

mine. My grandfather of course started as a breaker boy at age 7. One by one all seven boys worked their way out of the mines into other occupations and professions. Only their father—my great grandfather—stayed in the mine. He was killed in the Taylor Shaft in 1891 at age 56. His youngest son, age 15, saw it happen, and family members say he walked out and never went down the mine again.

To circle back to the present, the Avondale story was out of the public eye for a very long time, but it began to resurface in the mid-1990s and early 2000s in the Plymouth area and soon involved the Heritage Museum family and the Welsh Americans who were struggling to keep Washburn Street and its memories intact. The story received an important boost from restoration work at Washburn by the irreplaceable Bill Hastie and his son Trevor, and most importantly from the publication of Bob Wolensky's definitive book on the Tragedy. That was followed by Linda Scott's initiative in partnership with the Lackawanna Historical Society to raise funds by public subscription to complete Bill Hastie's repair work at Washburn. For their indispensable efforts, Bill and Linda were honored in 2009 by the Lackawanna St. David's Society.

With the reinvolvement of the Welsh-American community, an opportunity came along to take the Avondale story to new audiences, and that got underway in 2012 when the North American Festival of Wales chose Scranton for its annual event for the first time in over 80 years. The Festival was pleased to sponsor several seminars that introduced parts of the Avondale Story to an audience that was international in scope, yet included many whose ancestral families had become Americans right here in the Anthracite Region. Dr. Bill Jones presented findings from his history of the Welsh Community in the Anthracite Region, and he discussed the

impression on the attendees at the Welsh Festival, and really helped keep Avondale on the cultural map. Seven years later, I'm still approached by people who want to talk about it.

Building on the momentum from that event, our group has completed the next phase of the project that we hope will help keep the Avondale memories alive for generations to come. Apart from the mine tunnel itself whose preservation we're all happy to see coming along so nicely, and the various historical markers, the Washburn Street burial site is the single most iconic memorial we have for the men and boys who were lost that day. Only about 14 stones remain, and on those only a few names are legible. That has all now changed. Our brand new bronze marker clearly identifies by grave location the names of all 58 men and boys buried at or near the site. Thanks once again to the Lackawanna Historical Society for assistance in fund raising, and to the volunteers who worked so hard to accurately compile the names.

150 years: the completion of the Transcontinental Railroad only three months before Avondale, two world wars, economic growth and innumerable business cycles, social and technological change on a scale that our great grandparents could not possibly have imagined. The steady growth in rights for ordinary working men and women, and yes, the not-so-gradual erosion of many of those same rights in recent years. All this has happened in less than 3 generations from the day my direct ancestors got off the boat from Liverpool. But I think that they would be pleased that people like us still gather to remember what they were able to accomplish for themselves and for us. Today we commemorate and celebrate Avondale both as event and as symbol. I hope we can continue to look for ways to keep the celebration going.

12. *Carbondale 7th Avenue Station and Freight House*. Photograph posted on Facebook on September 9, 2019 by Walter Kierzkowski:



Carbondale 7th Avenue Station and Freight House.

13. Four clippings from the *Wayne County Herald*, 1910:

Wayne County Herald, January 18, 1910, p. 3: Snow storm on Moosic Mountain

“Friday afternoon’s Delaware & Hudson passenger train required two locomotives to push it through the snow drifts that had formed on the Moosic during the recent storm. Engineer Arnold was assisted by the yard engine, manned by James Lindsay. The train, scheduled to arrive at 3:15 did not come in until 3:45, a half-hour late. The engines were covered with snow. A solid drift on the tender reaching from the track to the top of the tender gave one an idea of what the locomotives had gone through. The engineers claimed at Nos. 4 and 5, west of Farview, it was badly drifted.”

Wayne County Herald, February 22, 1910, p. 3: The most severe storm ever experienced on the Honesdale Branch by Benjamin Gardner

“Benj Gardner, who for 38 years was engineer on the Honesdale branch of the Erie railroad, remarked that last Friday’s storm was the most severe on the road that he ever experienced. As a result the Honesdale Erie train was delayed two hours near Hawley on account of a big locomotive being derailed and at Kimble two coal cars ran off the track. The Binghamton train came to Honesdale in place of the regular train, Conductor Schroeder in charge.”

Wayne County Herald, February 25, 1910, p. 7: Honesdale Branch timetable, October 3, 1909

The Delaware & Hudson Company.

HONESDALE BRANCH.

East Bound Trains.

SUNDAYS

A. M.	A. M.			A. M.	A. M.	P. M.		P. M.	P. M.	A. M.			P. M.	A. M.
8 30	.....	.....	.....	10 00	.....	4 30	.....	2 00	10 50	.....	.....	.....	10 50	.....
10 00	.....	.....	.....	10 00	.....	6 05	.....	12 40	8 45	.....	.....	.....	9 00	.....
A. M.				P. M.		A. M.								
10 00	2 15	.....	.....	12 30	8 30	2 15	Philadelphia	4 09	7 31	7 32	.....	.....	7 31	7 32
P. M.	A. M.							A. M.		P. M.				P. M.
3 00	7 25	.....	.....	4 40	12 30	7 10	Wilkes Barre	9 40	2 55	7 15	.....	.....	2 25	10 05
3 50	8 15	.....	.....	5 30	1 19	7 55	Scranton	8 45	2 13	6 20	.....	.....	1 35	9 12

West Bound Trains.

SUNDAYS

P. M.	A. M.			P. M.	P. M.	A. M.	Lv	Ar	A. M.	P. M.	P. M.			P. M.	P. M.
5 40	9 05	.....	.....	6 20	2 05	8 45	Carbondale		8 05	1 35	5 40	.....	.....	12 17	8 27
f5 50	f9 15	.....	.....	f6 30	f2 15	f8 55	Lincoln Ave		7 54	1 25	5 30	.....	.....	12 07	8 17
f5 54	f9 19	.....	.....	f6 34	f2 19	f8 59	Whites		f7 50	f1 21	f5 24	.....	.....	f12 03	f8 13
f6 11	f9 36	.....	.....	f6 52	f2 37	f9 18	Farview		f7 33	f1 03	f5 08	.....	.....	f11 44	f7 54
f6 17	f9 42	.....	.....	f6 58	f2 43	f9 24	Canaan		f7 25	f12 56	f5 01	.....	.....	f11 37	f7 47
							Lake Ledore								
6 26	9 51	.....	.....	7 07	2 52	9 32	Waymart		7 17	12 49	4 54	.....	.....	11 29	7 39
f6 32	f9 57	.....	.....	f7 13	f2 57	f9 37	Keene		f7 12	f12 43	f4 48	.....	.....	f11 23	f7 32
f6 35	f10 00	.....	.....	f7 16	f2 59	f9 39	Steene		f7 09	f12 40	f4 45	.....	.....	f11 20	f7 30
6 39	10 04	.....	.....	7 20	3 03	9 43	Prompton		7 05	12 36	4 41	.....	.....	11 16	7 26
f6 43	f10 08	.....	.....	f7 24	f3 07	f9 47	Fortenia		f7 01	f12 32	f4 37	.....	.....	f11 12	f7 22
f6 46	f10 11	.....	.....	f7 27	f3 10	f9 50	Seelyville		f6 58	f12 29	f4 34	.....	.....	f11 09	f7 19
6 50	10 15	.....	.....	7 31	3 15	9 55	Honesdale		6 55	12 25	4 30	.....	.....	11 05	7 15
P. M.	A. M.			P. M.	P. M.	A. M.			A. M.	P. M.	P. M.			A. M.	P. M.

f indicates flag stations.

C. S. SIMS, Second Vice President.

A. A. HEARD, Passenger Traffic Manager

Wayne County Herald, April 8, 1910, p. 5: Coal no longer to be shipped through Honesdale:

"The discontinuance of the shipping of coal over the D. & H. through Honesdale will remove several families from town. Of the D. & H. system the following men will be compelled to remove from Honesdale, providing they continue with the company: Sidney Colwell, engineer, Frank Moran, fireman, Cyrenus Ball, conductor; Edward Turnberger, brakeman, and Jas. Ennis, flagman. In the Erie yard the change causes the removal of John Bushwaller, section foreman, to Dunmore; Fred S. Whittaker, transferred to Lackawaxen; Thomas E. Moran, Michael F. Coyne, and Fred M. Coyne, galvanizers; James Reilly, airbrake repairer; James Smith, caller, Benjamin Gardner, caretaker of air test engine. Mr. Gardner will remain in Honesdale. Nichols Marfing, of Lackawaxen, will be the Erie's new section boss. Three of the ten men formerly employed will be retained in the yard, namely, John Baird, James Ennis and Charles Ettinger. The change was effective April 1st."

14. Baseball clippings that we came across in the 1910 volume of the *Honesdale Herald* on September 6 at the Wayne County Historical Society (see No. 13 above) and forwarded to Ab Rutherford, who is currently working on an article on baseball in Honesdale. Here is his reply:

“From: absally@ptd.net / Monday, September 9, 2019 / 1910 newspaper clippings:

“Hi, Dr. Powell—Thanks for the material on the D&H baseball teams [copy of my baseball article from the July *BLHS Bulletin*]—Gramp (Frank Schuerholz) loved his baseball and managed the Honesdale town team for several years after his playing days were over. He often told of the “legendary” games versus Carbondale, including several played at Farview, with the D&H running special excursions for the fans, who came by the thousands. At one point the rivalry was so spirited that an American League umpire was hired to officiate!

Gramp lived with my mom and dad and my two brothers at our place just outside of Honesdale, where Dad raised and showed Columbian Plymouth Rocks for several years, and Gramp (a/k/a *Pop* to George Schroeder and many others) was an essential part of the chicken operation (which my siblings and I all hated). The local chicken fanciers put on what they called the *Honesdale Summer Show* at the county fairgrounds, as well as exhibiting at the fair itself, which in those days was held in September rather than August as it is now. Gramp was a fixture at those events, and they are how, as a kid, I got to know George. I join you in your admiration and respect for George, who was a good friend of our family and a client of mine until his passing.

You might be interested to learn that my friend Ray State and I have co-authored an article “The Locomotives of the West Point Foundry” which has been accepted for publication in “Railroad History.” It was originally to be published this year; however they made a decision to devote all of their material in 2019 to the sesquicentennial of the completion of the first transcontinental railroad—hopefully our work will appear in a 2020 issue.

I am in awe of your masterful set of discs on the D&H—a tremendous piece of work! [emphasis added]

Ab”

September 9, 2019 / Ab: / Columbian Plymouth Rocks, yes, now I remember George Schroeder talking about those Columbian Plymouth Rocks.

I look forward to reading the article that you and Ray State have written on the locomotives of the West Point Foundry. Please let me know when the article is published in “Railroad History”.

As you may already know, an article about the West Point Foundry (“When New York Was America's Locomotive Building Capital” by Robert W. Lowe) was published in the September 2016 issue of the *BLHS Bulletin* (copy attached).

Thank you very much for your kind words of appreciation of my D&H volumes. It means a lot when another railroad historian, such as yourself, recognizes the merit of my research on the D&H. / Best, Robert”

15. S. R. Powell’s second Roebling article (“Compression and Tension in the Four Roebling D&H Aqueducts”). Published in the November 2019 issue of the *Bridge Line Historical Society Bulletin*, pp.16-18, 20-21:

Compression and Tension in the Four Roebling D&H Aqueducts

By S. Robert Powell, Ph. D.

Embedded in every suspension bridge are horizontal forces (tension) and vertical forces (compression) that work together (compression is carefully balanced with tension) not only to hold up the bridge but also to make the bridge stronger by compressing in some areas and intensifying (tension) in others. Every suspension bridge, in addition, vibrates and moves, both vertically (compression) and horizontally (tension), as it responds to its environment and to the loads it carries. The challenge to a suspension bridge engineer, therefore, is not only to establish a successful working relationship between tension and compression in a given bridge but also to keep the vertical and horizontal motion of the bridge within carefully controlled and safe limits. If not, the bridge will collapse. The four Roebling D&H aqueducts were engineering successes. In those bridges, Roebling managed, brilliantly, the horizontal forces and the vertical forces embedded therein, at all times and in all seasons.

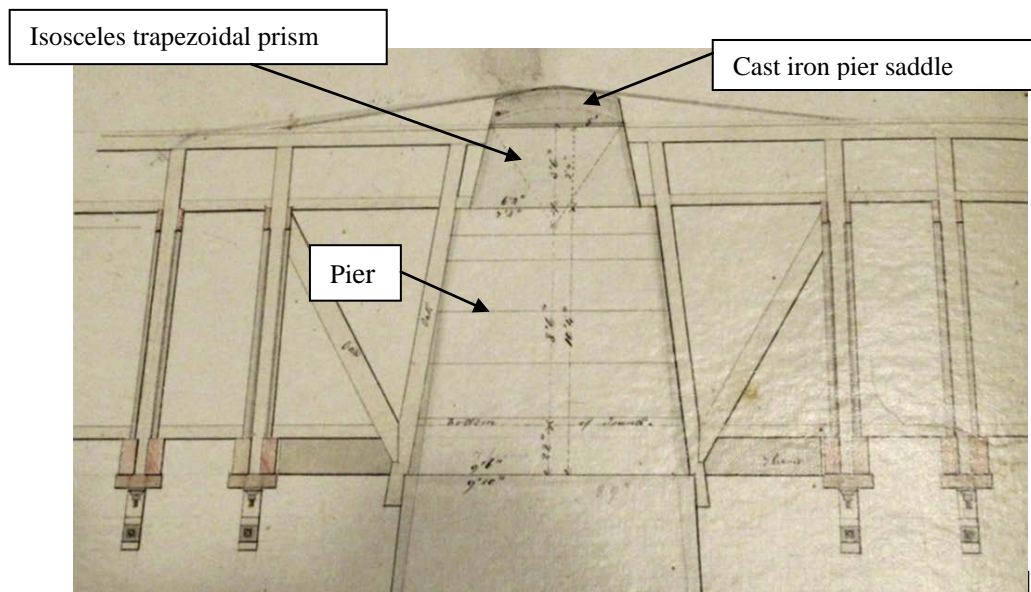
For the record, here is what Roebling agreed to do when constructing the Delaware and Lackawaxen Aqueducts (and then, by extension, for the Neversink and High Falls Aqueducts): “I agree to put up the superstructure of the Delaware & Lackawaxen Aqueducts, as explained by this specification and the drawings, including all the timber, iron and wire-work, and caulking and painting, and furnish all materials, for the sum of Sixty thousand and Four hundred dollars /\$60,400/--the D & H Canal Company to do all the masonry of the piers and abutments, also the excavation and masonry for the anchorage, the excavation and puddling for the sheet pilings at the extension, stone cutting for bull heads and studdings, and furnish all the cement required for the anchorage and rest of the work.” (“Specification of the Superstructure of the Wire Cable Suspension Aqueduct over the Delaware River and Lackawaxen Creek, Delaware & Hudson Canal”, dated February 1, 1847 and signed by Roebling in Pittsburgh)

Supervising the work: On February 18, 1847, Roebling wrote a letter to Jonathan Rhule, a resident of Williamsport, PA, who had worked for Roebling during the construction of the aqueduct and bridge at Pittsburgh, asking him to be the on-site supervisor for the construction of the Delaware and Lackawaxen Aqueducts. Rhule accepted the job offer (and served in that

capacity, it seems highly probable, also for the construction of the Neversink and High Falls aqueducts).

Management of Compression via the Piers: At the top of each pier (three on the Delaware Aqueduct and one on the Lackawaxen Aqueduct) was a masonry unit in the form of an isosceles trapezoidal prism (called a “pyramid” by Roebling), that received, via the cable, the weight of the water in the aqueduct (the force of compression, which could vary, within limits, over any given time period) and transferred it downward (exactly as the keystone in a Romanesque arch transmits weight downward) to the pier, also in the form of a trapezoid, under it. That weight was then transferred by the pier to the ground beneath it. (The trunk of the Roebling aqueducts was self-supporting; the cables had only to support the dead load of the water or the canal boats which displaced it--Archimedes’ principle. The only live loads on the aqueducts were the mules or pedestrians on the towpaths.)

Shown here is a drawing, in the Roebling archive at Rensselaer Polytechnic Institute at Troy, of one of the piers in the Delaware Aqueduct. At the top of the pier is an isosceles trapezoidal prism, topped by a cable saddle. Below the pyramid, is the pier.



Management of Compression via the Abutments: Shown below are the isosceles trapezoidal prisms, called “pyramids” by Roebling, that were erected on each of the abutments on both river shores in all four aqueducts. These pyramids on all four aqueducts are set-back 19” from the river-edge of the abutment so that the weight transmitted by the cable to the top of the pyramid would be evenly transmitted by the pyramid to the abutment below and then to the earth below.

The pyramids on the four Roebling D&H aqueducts:



High Falls Aqueduct



Neversink Aqueduct



Delaware Aqueduct



Lackawaxen Aqueduct

For the record, here are the measurements on the pyramids on the abutments on all four of the Roebling aqueducts: On the Lackawaxen Aqueduct those prisms, at the top, are 60" X 36"; at the bottom, they are 74" X 48"; they are 40" tall (3 courses of stones, with one stone per course in both abutments). On the Delaware Aqueduct, those prisms, at the top, are 60" X 39"; at the bottom, they are 74" X 48"; they are 40 inches tall (three courses of stone, with one stone per course, except in the "broken-stone pyramid"--see note of November 17, 1847 from Charles M.

Dupuy to Russel Lord in *Unrau*, p. 37--on the upriver abutment on the New York shore, where there are two stones in the bottom course). On the Neversink Aqueduct, those prisms, at the top, are 60" X 36"; at the bottom, they are 78" X 52"; they are 60" tall (three courses of stone, with one stone in the top course, 2 stones in the middle course, and three stones in the bottom course in both abutments). At High Falls, those prisms, at the top, are 60" x 36"; at the bottom, they are 72" x 48"; they are 43 1/2" tall (3 courses of stones in both abutments, with one stone per course).

The pyramids at Neversink are the tallest, at 60"; those at High Falls are 43 1/2" tall. The taller pyramids on those two aqueducts, it wouldn't surprise me to learn, were a structural consequence of the fact that at Neversink and at High Falls there were no piers in the rivers, and the spans there were very long (Neversink: one 170-foot span, with as much as 632 tons of water in the span; High Falls: one 145-foot span, with as much as 530 tons of water in the span).

The pyramids on the Neversink Aqueduct are 20" taller than those on the Delaware and Lackawaxen Aqueducts, and 16 1/2 inches taller than the pyramids at High Falls. (*Wakefield*, p. 132, is incorrect when he says that the pyramids on the Neversink Aqueduct are two feet higher than those on the Delaware Aqueduct.)

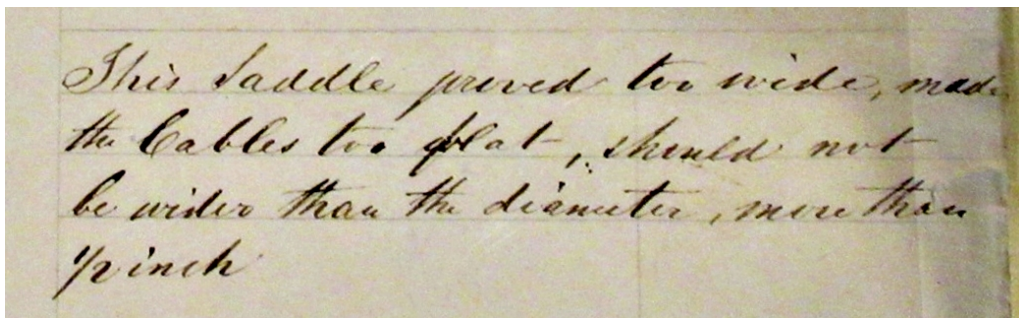
Management of Tension via the Cables: The two cables on each of the four aqueducts, were air spun (spun at the work site; a technique devised by Roebling). A single endless 1/4 inch wrought iron wire was passed across the river and over the pyramids on the piers (Lackawaxen and Delaware aqueducts) and on the abutments on both shores (which gave each wire the correct sag so that every wire would sustain the same weight under tension), until a bundle, made up of a continuous strand of wire, was created. Each cable contained seven bundles of wire. (Roebling Specifications: "The cables will be manufactured of the best charcoal wire, No. 10 size, the wrapping No. 14 1/2. Each strand of wire to be well varnished, and the whole cable to be painted inside and outside.")

The two cables in each of the four aqueducts, which were coated for protection and wrapped with an outer covering, passed over cast-iron saddles on top of the masonry pyramids at the top of the masonry piers and abutments. On the Lackawaxen, Neversink, and High Falls aqueducts, those saddles were placed on masonry pyramids which, at the top, were 60" x 36"; on the Delaware Aqueduct the pyramids, at the top, are 60"x 39".

The saddles were smooth, open cable paths which allowed for not only slight horizontal movement but also limited expansion of the thickness/diameter of the cable. On the piers of the Lackawaxen and Delaware Aqueducts, the saddles were anchored atop the piers and did not move. On the abutments on all four of the aqueducts, the cast iron saddles were moveable. In the "Specifications" signed by Roebling for these aqueducts, we read: "The cables will rest and be

secured in cast iron saddles, on the piers. Those on the abutments will be moveable, on rollers, to admit of contraction and expansion.” The moveable saddles on the abutments, in other words, was one of two ways that Roebling managed the tension in the suspension system. (The second way is given below in our discussion of “a new mode of anchorage”.) Through those cable saddles, the weight of the load sustained by the cables (compression) was transferred to the abutments and piers, and from the abutments and piers to the earth.

The pathway/channel for the cable across those saddles in all four of the aqueducts, on both the piers and the abutments, was no more than one-half inch wider than the cable. That we know from a note that Roebling wrote on a drawing--in the Roebling archive at RIP--for a possible saddle for the Delaware Aqueduct piers and abutments. Shown here is a photograph by the author of that note, in Roebling’s hand, on a rejected saddle design for the Delaware Aqueduct:



Typescript of the note given above: “This saddle proved too wide, made the Cables too flat, should not be wider than the diameter, more than ½ inch.”

An additional very important note on the saddles on the Delaware Aqueduct was written by Roebling in a notebook in August 1848: “11 inches wide... entirely too much--9” for a 8 ½” cable would have been about right. . . The roundness of the strands should be preserved through the saddle. If the latter is too wide, the strands flatten too much, the wires spread and cause unequal tension.” (*Unrau*, p.43)

The importance of those two notes in understanding the structure of the four Roebling D&H aqueducts and the management of tension in those bridges can not be overstated. The reference for those notes, as we have said, is to the Delaware Aqueduct. What Roebling required for the cable passage on the saddles on the Delaware Aqueduct he would have required on the saddles for the other three aqueducts as well.

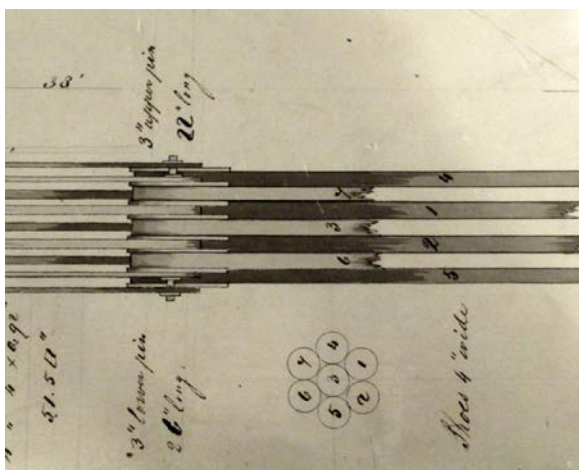
With that extra half-inch, the diameter of the cables could, therefore, vary, due to expansion and contraction, in the course of a year. That extra half inch served like a pressure-release valve in that it established an exact and finite limit for expansion. If the cable was firmly restricted in a cable channel that was exactly the width of the cable, normal expansion of the cable due to temperature might well have compromised the cast iron cable channel in the saddle. That extra

half inch gave the cable room--but not too much room--to breathe, so to speak. For the record: Lackawaxen Aqueduct, cables were 7 inches in diameter, each with 1,624 wires; Delaware Aqueduct, 8 ½ inch cables, each with 2,150 wires; Neversink Aqueduct, 9 ½ inch cables, each with 2,880 wires; High Falls Aqueduct, 8 ½ inch cables, each with 2,300 wires.

Having passed over the abutments on each shore, the wires, which were not braided, were then looped over anchor chain shoes and cinched up. The shoes were then pin-connected, by a series of eyebars, to the cable anchorage system. (Roebbling Specifications: "The anchor chaines will be manufactured either of good charcoal blooms, or good scrap iron. They will be well painted before they are put under ground, and surrounded by hydraulic cement--to be furnished by the Company.") The wires did not at any time extend below the ground.

Shown here is a very interesting detail of a drawing in the Roebbling papers at Rensselaer of an anchor chain and of a set of eyebars (these at High Falls)--on two levels, with three connection openings on the top level and four on the bottom--to which the seven bundles of wires in each cable were connected. Each of the seven bundles of wire in each cable, we learn from that drawing, was numbered one to seven, based on the position occupied by that bundle, in the cable. See the numbering on the bundles of wires at the bottom of the drawing. In addition, each bundle was connected to the head of the anchor chain in a specifically designated position in the eyebars, according to a consciously established pattern. The opening in the center of the top level of the eyebars, for example, was designated for bundle No. 3; the two openings in the center on the lower level were for bundles 1 and 2, and so on. That pattern was established by Roebbling as part of a conscious plan to manage the tension in the cables by passing the tensional forces in the bridge into the ground.

Shown here is that very interesting drawing. The numbered positions on the upper level were for bundles 6, 3 and 7; the four positions on the lower level for bundles 5, 2 1, and 4. Also shown here also are the two levels of eyebars on the downriver abutment at High Falls on the High Falls side of the river.



Shown here, in the photograph on the left, we see, on the Delaware Aqueduct, the seven bundles of wires that have been looped over the anchor chain shoes and secured. The shoes were then pin-connected, by a series of eyebars, to the cable anchorage system. On the right, we see a Delaware Aqueduct abutment and the seven bundles of the cable attached to the anchoring system.



The same expansion/contraction possibility that we saw in the cable saddles was built into the cable anchorage system designed by Roebling. To hold the anchor plate in place, in all four D&H aqueducts, Roebling established an entirely new system, using lumber, which gave the anchor chain and the cable a flexibility it could not have had if stone has been used. In Roebling's patent application for a new mode of anchorage applicable to wire bridges as well as chain bridges (patent approved August 26, 1846; patent in the J. A. Roebling Collection, Archives and Special Collections, Folsom Library, Rensselaer Polytechnic Institute, Troy, NY), we read:

“My improvement consists of a new mode of anchorage, applicable to Wire Bridges as well as Chain Bridges. In place of resting the anchor plate directly against a stone wall I apply in my mode a system of timbers [emphasis added], which serve in a manner as a foundation for the superincumbent masonry, distribute the great pressure of the foundation plates over a large surface of masonry, reduce therefore its length or depth, and by its yielding and elastic nature, prevent the breaking of the anchor plates [emphasis added].”

In summation, Roebling states: “What I claim as my original invention and wish to secure by Letters Patent is: The application of a timber foundation, in place of stone, in connection with anchor plates, to support the pressure of the anchor chains or cables against the anchor Masonry of a Suspension Bridge--for the purpose of increasing the base of that masonry, to increase the

surface opposed to pressure, and to substitute wood as an elastic material in place of stone for the bedding of anchor places--the timber foundation either to occupy either an inclined position, where the anchor cables or chains are continued in a straight line below ground [Lackawaxen, Delaware, and Neversink], or to be placed horizontally [High Falls] where the anchor cables are curved, as exhibited in the accompanying drawing, the whole to be in substance and its main feature constructed as fully described above and exhibited in the drawing.”

The cables in the Roebling aqueducts, in other words, could move horizontally, within carefully restricted limits. Roebling did not indicate, so far as we have been able to discover, by how much the cable could move, but it surely must have been a very short distance (comparable to the half-inch diameter variable in the saddles on the piers and abutments). The very important point is this: By means of the suspension cables and the anchorage system for those cables, the tension in the four aqueducts, at all times and in all seasons, was transferred from the cables to the anchorage system to the earth beneath that system.

Summary Statement: Given the fact (1) that Roebling established a successful working relationship between the forces of tension (managed by the cables and the anchorages) and compression (managed by the piers and abutments) that were embedded in all four D&H aqueducts, and (2) that, by conscious design on the part of Roebling, those aqueducts not only met the weight/load requirements of the Delaware and Hudson Canal Company for those bridges for over fifty years but also interacted with their environments, within carefully controlled and safe limits and at all times and in all seasons, Roebling’s four D&H aqueducts must be regarded, therefore, not only as triumphs of engineering, but also as expressions of the mature style of a master bridge builder.

* * * * *

16. “*The Birth of the D&H as a Steam Railroad*,” by S. Robert Powell (*BLHS Bulletin*, October 2019, pp. 16-17, 19):

For the Record

The Birth of the D&H as a Steam Railroad

by S. Robert Powell, Ph.D.

The debut of steam locomotive power on the D&H took place in February 1860, when the locomotive *Major Sykes* made the pioneer run by a D&H steam locomotive on a portion of the flat-land Gravity Railroad from the foot of Plane No. 23 in Olyphant to Providence. That run was a direct consequence of the establishment of passenger service on the Gravity Railroad down the Lackawanna Valley from Carbondale to Olyphant.

The initial passenger run on the D&H Gravity Railroad was made in 1859, when an experimental trip was made to the foot of Plane No. 21 ("C") in Archbald. On this experimental trip, Hugh Powderly served as engineer, fireman, conductor, and brakeman. The passenger vehicle was a flatcar that had been fitted out with benches and handrails. A car, loaded two-thirds full with culm and saturated with water to keep it from flying into the passengers' faces, was run in front to give impetus to the levels. On this trial trip were C.P. Wurts and family, Lewis Pughe and family, E.P. Garland and family, Israel Decker and family, and Davis Alton, who was then general coal inspector for the D. & H. The trip was made in 23 minutes. That time proving satisfactory, passenger cars were ordered to be built.

In early November 1859, additional experimental passenger runs were made on the Gravity Railroad, this time "to the new village of Olyphant". About these runs, we learn more from an article titled "Railroad Communication", which was published in the November 12, 1859 issue of the *Carbondale Advance*:

"A comfortable passenger car has been provided, well seated, and the trip we learn is made very safely and pleasantly in less than an hour. Regular trips are not proposed to be made at present, but will probably [be made] within a few months [when] the further extension of the road to Providence is completed. This will bring us by Railroad within 2½ miles of the Scranton Depot".

By mid-November 1859, regular passenger service, with full loads each way, was established to the foot of Plane No.

23.

How did these passenger cars get from Carbondale to Providence and back? Up until at least 1868, when Level 20 was installed, they were pulled up the Blakely Plane, and then continued on their journey southward – on the Blakely Level – to Plane 21 in Archbald, and then on down to the foot of Plane 23. Returning to Carbondale, they were taken to the top of the mountain at Archbald (Planes 26 and 27) and then sent down Level 27 to downtown Carbondale.

Given the success of these passenger runs to Olyphant, it was deemed advisable by D&H management to construct, without delay, an extension of the Company's railroad, from its previous terminus (the foot of Plane No. 23) to a point within one mile of Scranton, a distance of about 4-½ miles. That extension, which was targeted to open on May 1, 1860, opened in February 1860.

What was built? Two short and very different rail lines: (1) a short Gravity-gauge rail line south from the foot of Plane No. 23 (on the eastern side of the Lackawanna River) and across the Lackawanna River; and (2) a 4-mile long standard-gauge rail line on the western shore of the Lackawanna River, from the point where the Gravity tracks arrived on the western shore of the Lackawanna River, to the south to Providence. It was D&H Chief Engineer Charles P. Wurts, it should be noted, who oversaw the building of this four-mile long standard-gauge railroad. The point where the Gravity-gauge tracks and the standard-gauge tracks came together/were merged on the western shore of the Lackawanna River, just south of Olyphant, was Valley Junction.

Those four miles of D&H tracks between Valley Junction and Providence are truly remarkable, from the perspective of the complete history of the D&H, for three reasons:

1) They embody, if you will, the past (gravity-gauge) and the future (standard-gauge) of the D&H. Many additional miles of identical tracks would very quickly be established by the D&H, but

this 4-mile section of trackage in February 1860 merits special notice, because it was the first section of D&H tracks with dual gauges – Gravity gauge: 51 inches (4 feet 3 inches), and standard gauge: 56½ inches (4 feet 8½ inches).

2) The D&H did not own at the time (February 1860) any standard-gauge cars or engines.

3) Standard-gauge tracks (56½ inches) were not yet recognized as the norm for American railroads. That would not happen until March 1863, when the U.S. Congress determined that the gauge of the Union Pacific railroad would be 56½ inches; most American railroads adopted 56½ inches as the gauge of their tracks. (The A&S, the Erie, and the DL&W, nevertheless, among others, chose six feet as their gauge.) So when the D&H built the four-mile section of standard-gauge tracks from Valley Junction to Providence, they were, in a very significant and remarkable way, projecting into/building for the future.

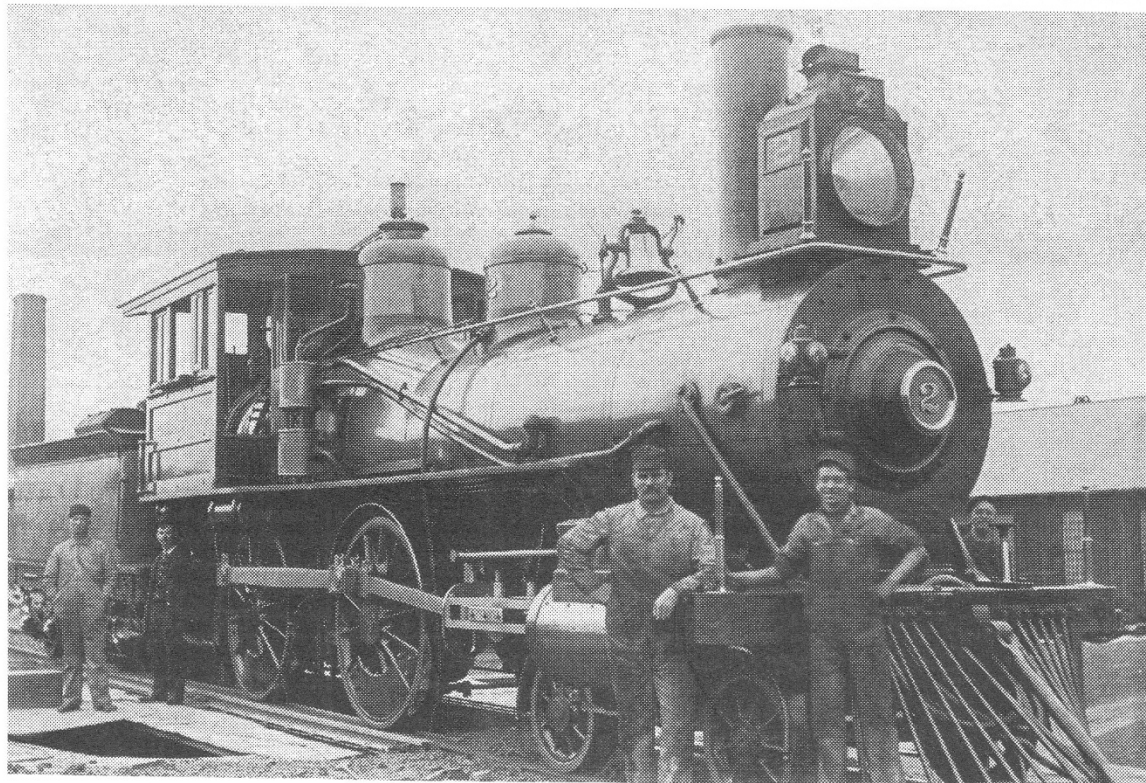
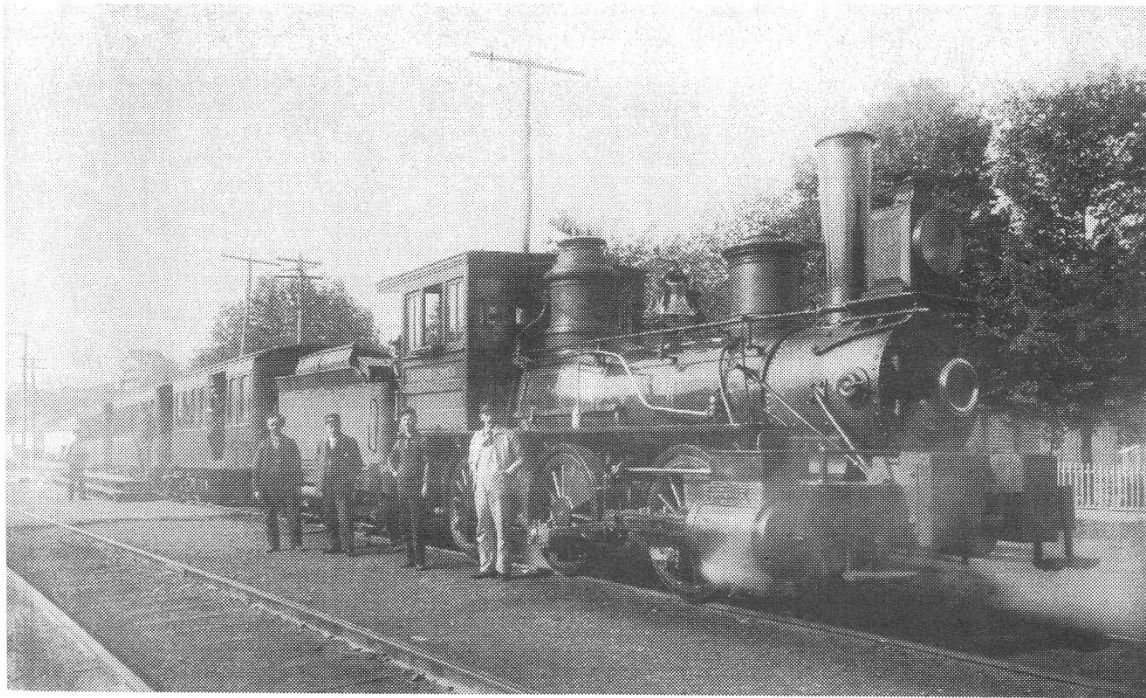
Those four miles of standard-gauge track on the western shore of the Lackawanna River were the first embodiment

continued on page 19

Page 17:

Top: The *Major Sykes* (D&H engine no. 1, 0-4-0), built by W. Cook and Company, Scranton, Penna., and purchased by the D&H in 1860. It is shown here when rebuilt/converted by the D&H in 1872 at its Green Ridge shop, changing in type from 0-4-0 to 0-6-0, "probably the first conversion". From the Carbondale Historical Society via Dr. S. Robert Powell.

Bottom: The *C.P. Wurts* (D&H engine no. 2), built by W. Cook and Company, Scranton, Penna. Purchased by the D&H in 1860, sold to the Dickson Manufacturing Works in 1874; built in 1860 for passenger service on the Valley Road, although she too hauled coal to the foot of Plane No. 23 when necessary. From the Carbondale Historical Society, via Dr. S. Robert Powell.



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SRP's DVDs

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17. Two WC Cabin photographs by Mike Bischak (Breezy) in the October 2019 *BLHS Bulletin*, p. 29. Our thanks to Mike Bischak for making available for publication here copies of his original color photographs:



Northbound, train NE-84, passing through Simpson behind the Fab Weld shops about to pass under the Simpson viaduct.

Top: D&H GP38-2 #7322, GP39-2 #7615, C420 #415 and U23B #2301 with train NE-84, northbound at WC Cabin, Simpson, Pa. August 27, 1979 photo by **Mike Bischak**.



“The photo of the 7320 on train SB-2 is stopped at WC Cabin, Simpson waiting to follow another train which is ahead. The person talking to the crew, I believe, was just someone walking the tracks at the time.” Breezy. Our thanks to Mike Bischak for making available for publication here a copy of his original color photograph.

Bottom: D&H GP38-2 #7320 and C424m #451 with train SB-2 are stopped at WC Cabin, Simpson, Pa. NE-87 is ahead. Track 2 had recently been removed, creating single-track operation from WC Cabin to BN Cabin in Burnwood, south of Ararat Summit. Photo by Mike Bischak on September 6, 1980.

18. Green Ridge and Scranton Timetable, Delaware & Hudson Trains, April 10, 1892, *BLHS Bulletin*, October 2019, p. 47:

DELAWARE & HUDSON TRAINS
BETWEEN
GREEN RIDGE AND SCRANTON.
APRIL 10, 1892.

The only double track line between Carbondale and Wilkesbarre.

From Green Ridge to
D. L. & W. Sta., Scranton.

A. M.	P. M.
5.25	1.19
6.45	2.05
7.36	3.37
8.15	4.55
8.39	5.36
9.55	6.10
11.36	7.37
11.45	9.17

From Green Ridge to
Bridge St. Sta., Scranton.

A. M.	P. M.
7.56	12.05
9.02	1.20
9.32	2.33
10.37	4.10
	4.37
	5.10
	6.10
	9.10
	11.30

From D. L. & W. Sta.,
Scranton, to Green Ridge.

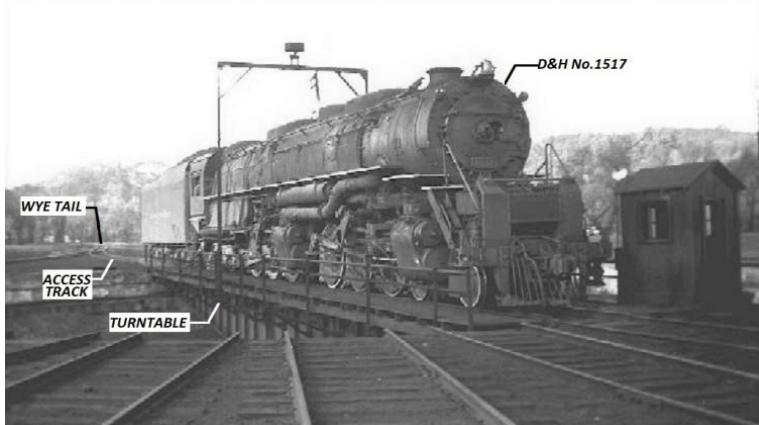
A. M.	P. M.
5.40	2.17
7.00	3.25
7.46	3.46
8.30	5.10
8.48	5.46
10.10	6.20
11.55	7.47
12 noon	9.35

From Bridge St. Sta.,
Scranton, to Green Ridge.

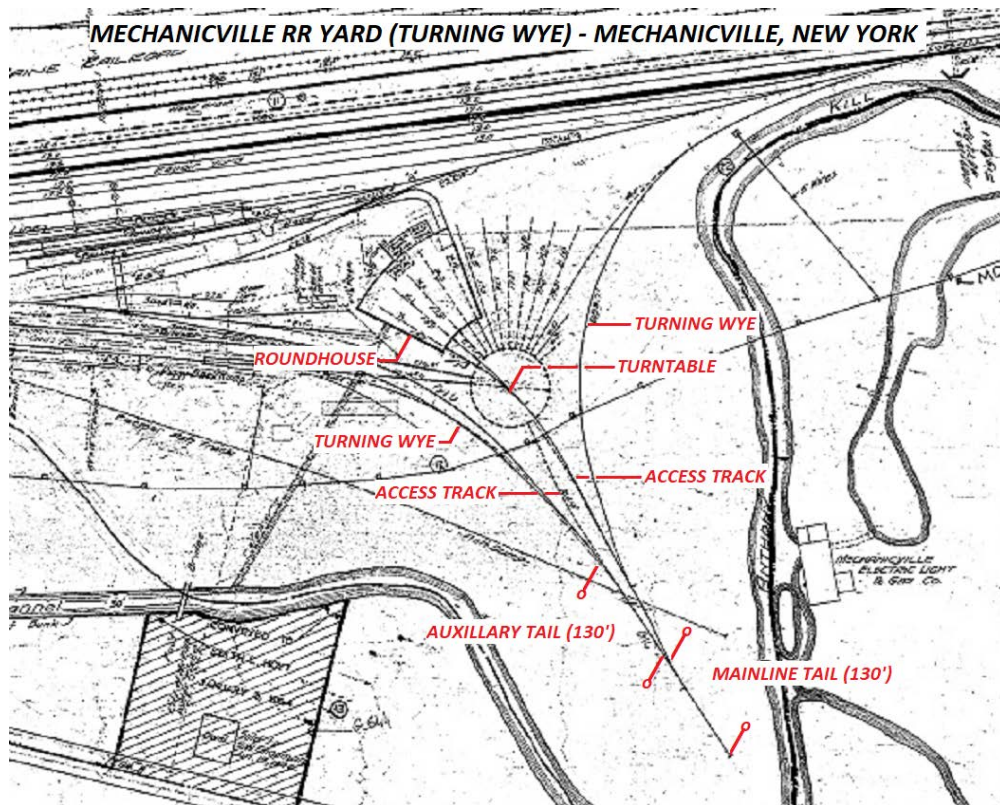
A. M.	P. M.
2.03	1.05
8.01	2.00
9.47	3.11
11.31	4.46
	6.04
	7.16
	9.01
	11.13

19. Challenger 1517 on Turntable at Mechanicville c. 1950. Photo and Mechanicville yard map (courtesy Mike Bischak) from Stacy Gardner, October 8, 2019:

MECHANICVILLE RR YARD (TURNTABLE) - MECHANICVILLE, NEW YORK - CIRCA 1950



View looking north/northeast at D&H J-Class 4-6-6-4 Challenger No.1517 crossing the turntable, possibly headed for one of the roundhouse stalls, after coming off the tail end of the turning wye seen off in the distance. There are two access tracks coming off two separate portions of the turning wye with tails long enough to allow Challengers to access two separate stalls in the roundhouse, however, only one that allows them to change their mainline direction. Note: No.1517 was one of the first D&H Challengers to wreck - February 1945 in Central Bridge, New York.



20. D&H photographs, 1915-1919, courtesy the Bridge Line Historical Society and Mike Bischak, October 1, 2019:

The U.S. entry into World War I in April 1917 coincided with a downturn in the fortunes of the nation's railroads: rising taxes and operations costs, combined with prices that were fixed by law, had pushed many railroad companies into receivership as early as late 1915. A year later, in a last-minute bill passed through Congress, Wilson had forced the railroad management to accept union demands for an eight-hour work day. Still, many skilled workers were leaving the cash-poor railroads to work in the booming armaments industry or to enlist in the war effort.

By the end of 1917, it seemed that the existing railroad system was not up to the task of supporting the war effort and Wilson decided on nationalization. Two days after his announcement, the United States Railroad Administration (USRA) seized control of a large majority of the country's railroads under the Federal Possession and Control Act.

William McAdoo, Wilson's secretary of the treasury, was appointed Director General of Railroads. The railroads were subsequently divided into three divisions—East, West and South. Passenger services were streamlined, eliminating a significant amount of inessential travel. Over 100,000 new railroad cars and 1,930 steam engines were ordered--designed to the latest standards--at a total cost of \$380 million.

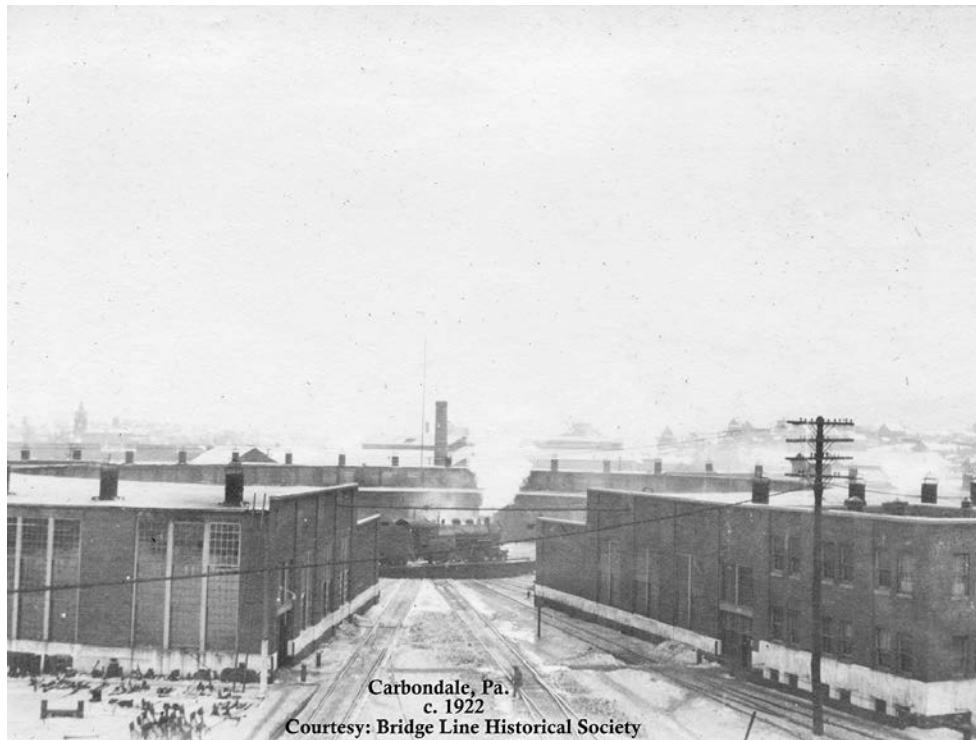
In March 1918, the Railroad Control Act was passed into law. It stated that within 21 months of a peace treaty, the railroads would be returned by the government to their owners and that the latter would be compensated for the usage of their property. Consequently, the USRA was disbanded two years later, in March 1920, and the railroads became private property once again.

At that time, the D&H had several thousand photographs of its real estate, all taken in the period 1915-1919. As such, the D&H has a photographic record of their property and its condition at the time of nationalization--which meant that the D&H had conclusive evidence, after the war, to support claims that their property, if damaged, was damaged during the war years.

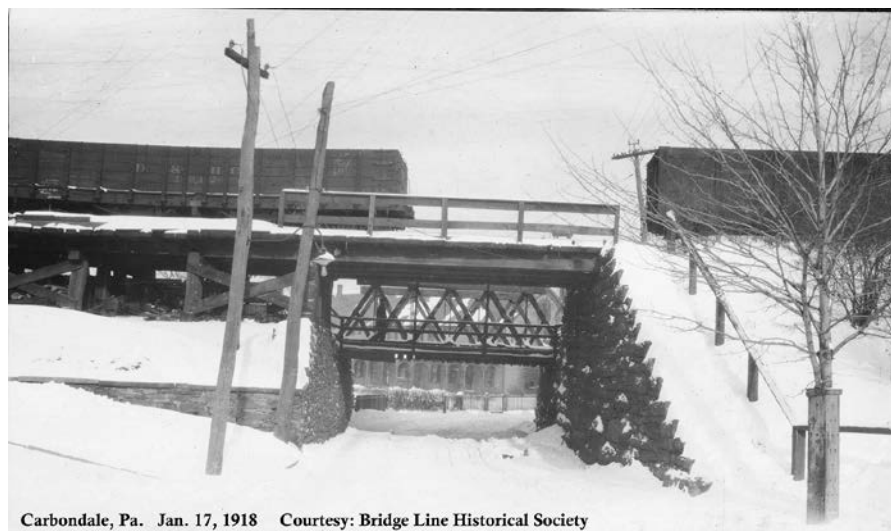
The originals of those photographs, an astonishing collection of rare photographs of D&H real estate, are now in the holdings of the Bridge Line Historical Society. Mike Bischak, Simpson, PA, is presently scanning all of those photographs, each 4.25" x 2.5", for the BLHS. On October 1, the Bridge Line Historical Society, via Mike Bischak, presented to the Carbondale Historical Society electronic scans of 166 of those photographs of D&H Pennsylvania Division properties. Shown below are 28 of 166 black and white photos that were taken by the D&H of its Pennsylvania Division real estate before the nationalization of the railroads in America during World War I. This group of 28 photos is the first installment of this collection of 166 photos. The others will be presented in subsequent volumes in this D&H series.

Sincere thanks to the Bridge Line Historical Society and to Mike Bischak for making these photos available for presentation here.

1. Forty-one Stall Roundhouse, Carbondale



2. Bridge over John Street, Carbondale



3. Canaan, PA, Waiting Room



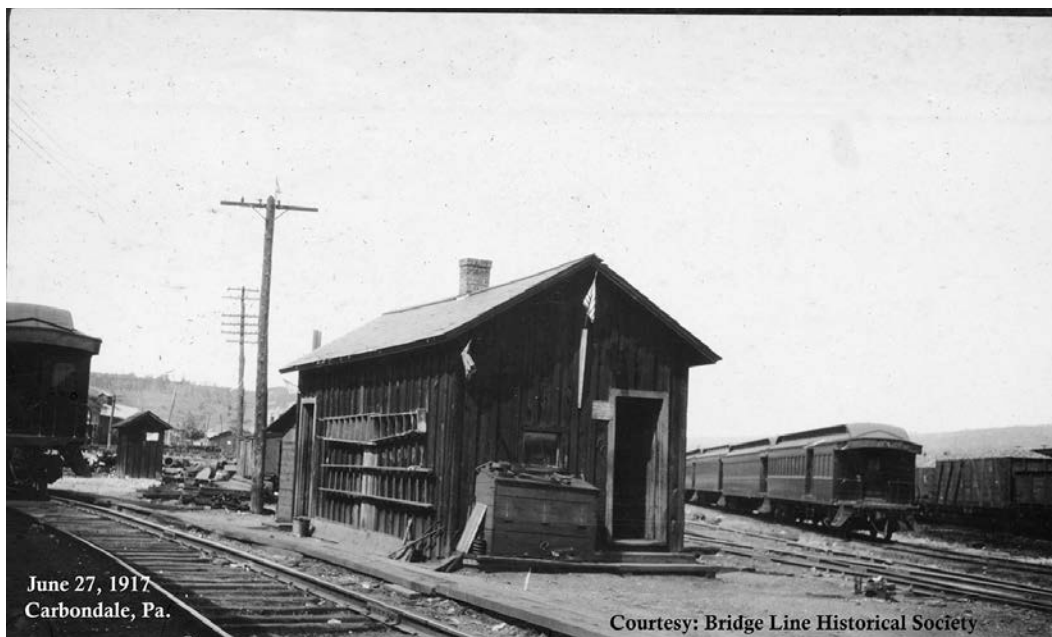
4. Carbondale, PA D&H Yard



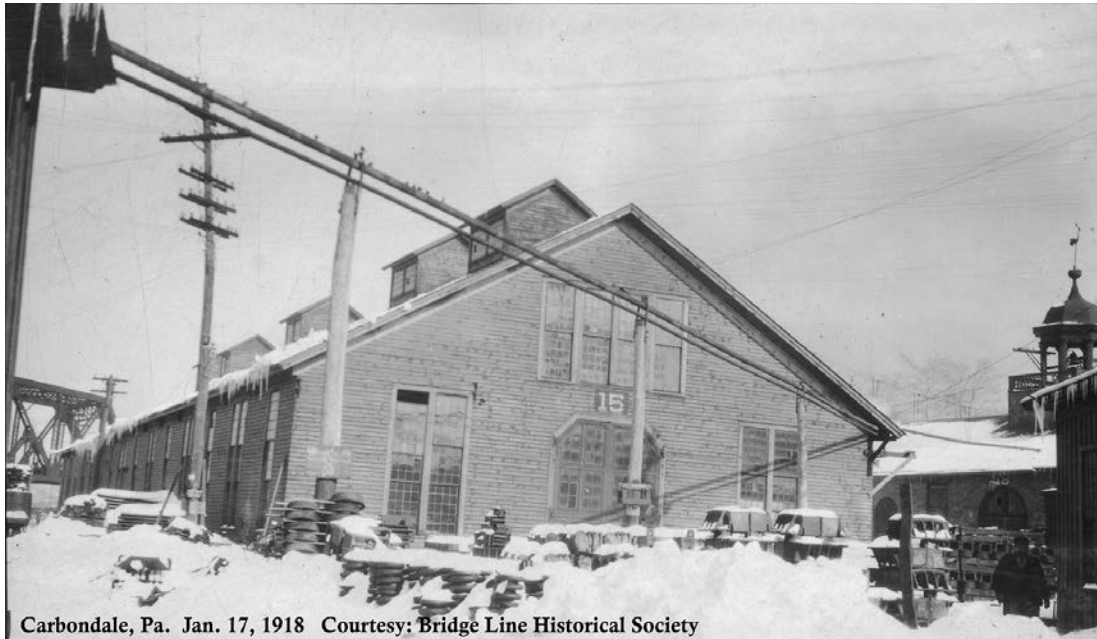
5. Carbondale, PA Yard



6. Coach Cleaner's Shop, Carbondale, PA Yard



7. Coach Shop Building #15, Carbondale, PA



8. Coal Piles and Machines, Duffy's Field, Childs, PA



9. Cycle Club, Carbondale, PA

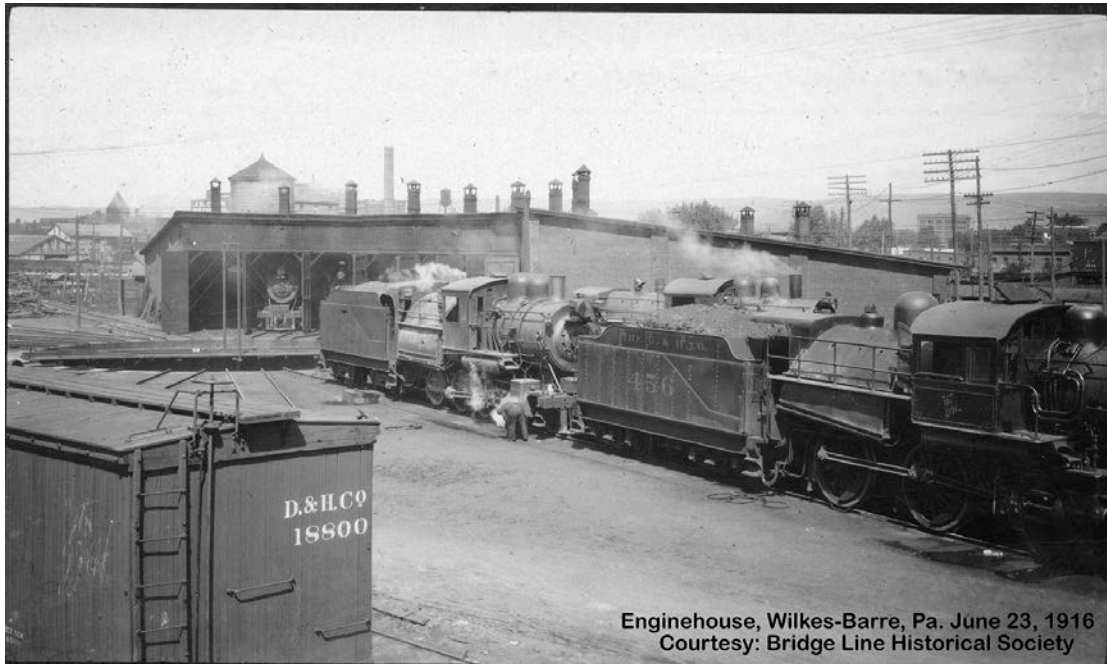


“I’m quite certain that the site is the corner of North Church Street and Belmont Street (Medicine Shop, in recent years). From 1829 to 1845 the Gravity Railroad went up the mountain, passing directly behind this shop and then up what is now called Sage Court (to the left of Canaan Street). The stone work to the left of this building is part of the foundation for the roadbed. Having the rope barn right by the tracks made it easy to store the ropes on the planes, all of which were taken in on Saturday night and then put out again on Monday. The Cycle Club, in later years was on the corner of North Main and John Street (North High Rise there now). Not sure if the building shown here was moved down to the new site or if a new building was erected at the new site. The Cycle Club was a gentlemen's sports club. Very fancy.”

10. East Side of New Engine House, Carbondale



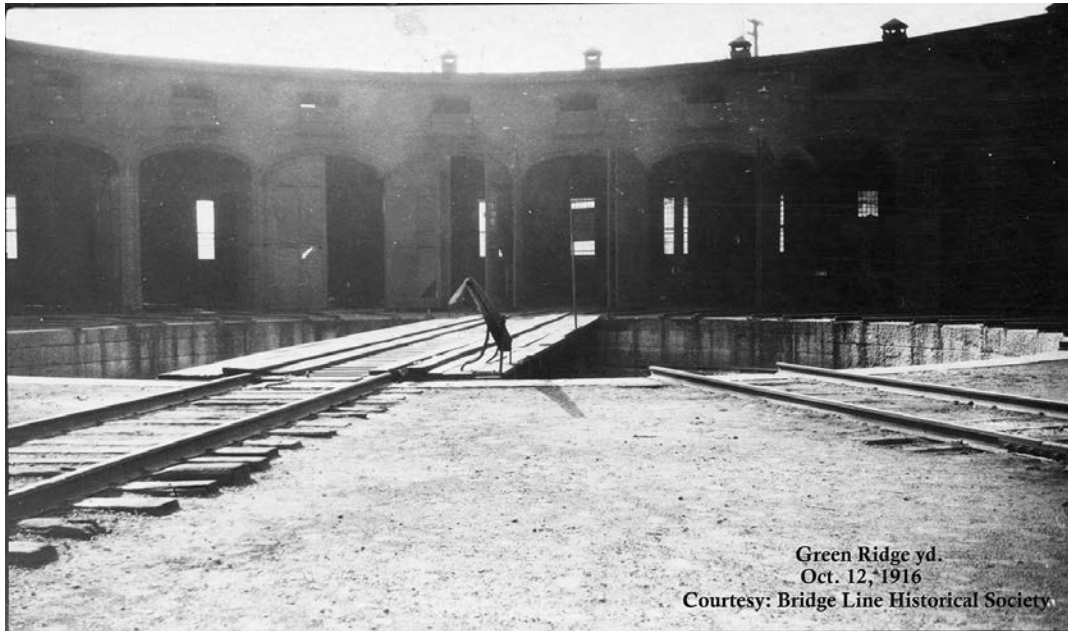
11. Engine House, Wilkes-Barre



12. Engine House, Wilkes-Barre



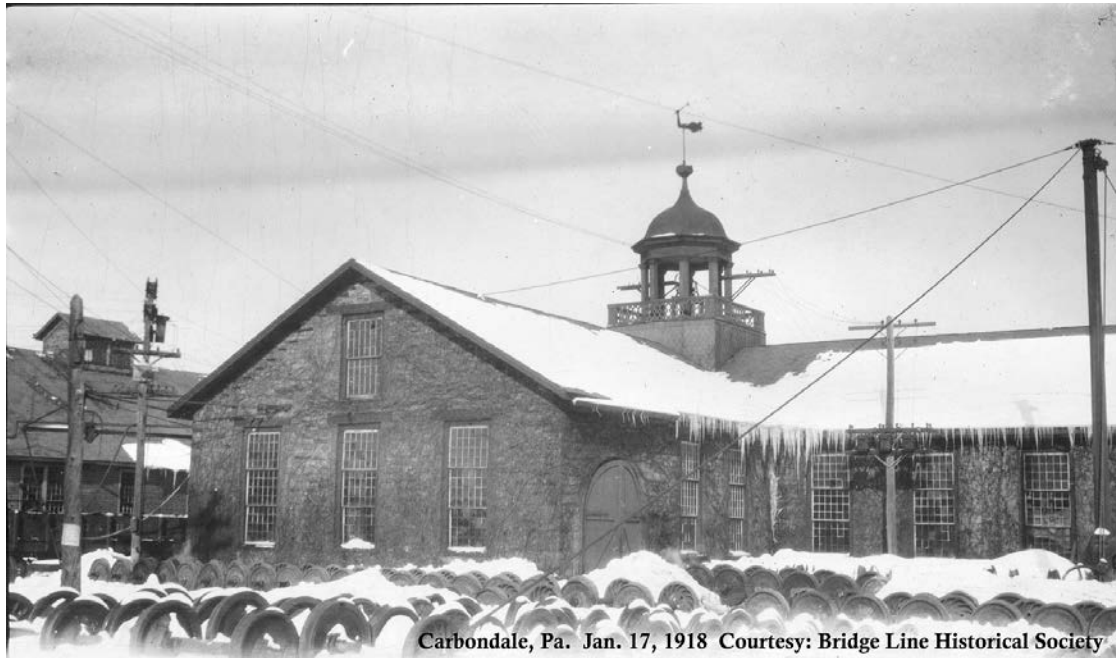
13. Engine House, Green Ridge Yard



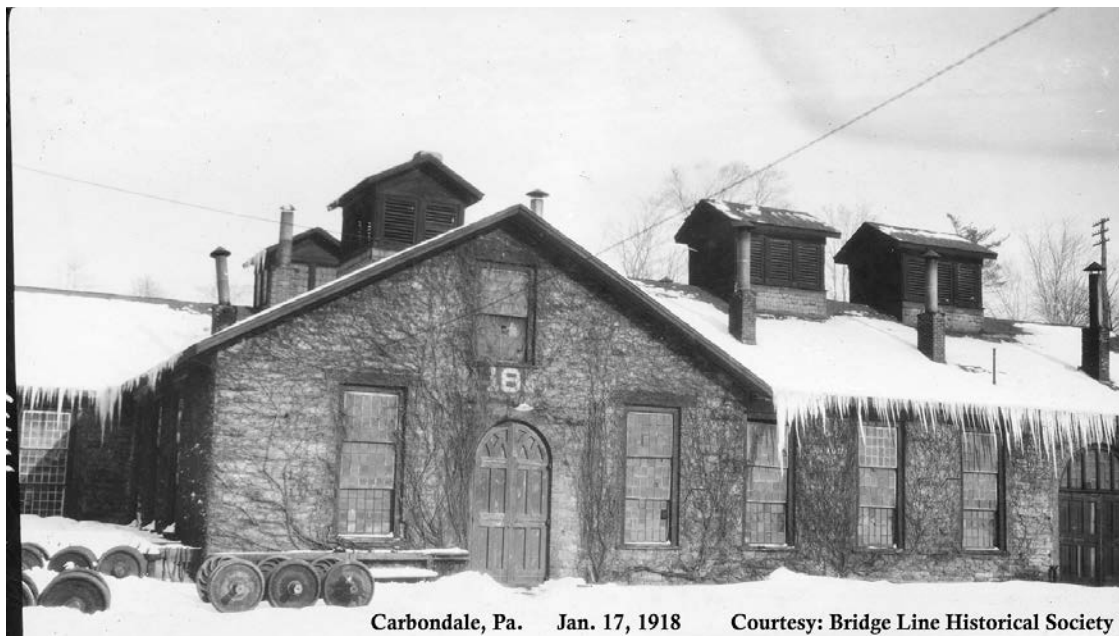
14. Foot Bridge over Lackawanna River, Carbondale



15. Forge and Machine Shop, Building #18 Carbondale



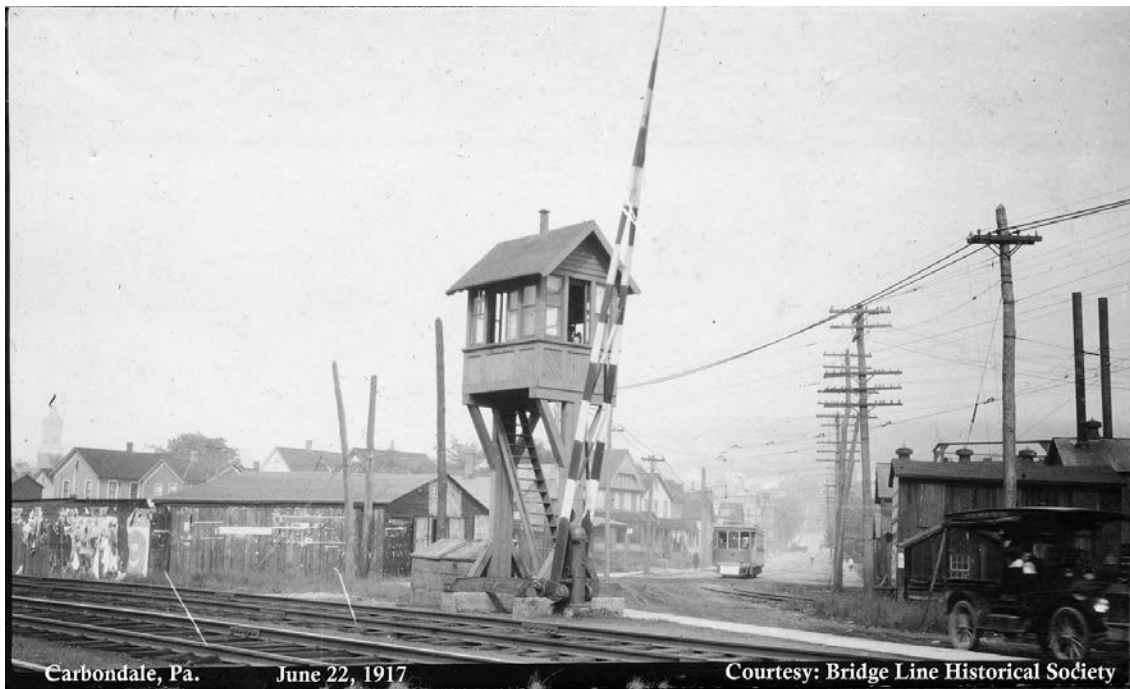
16. Forge and Machine Shop, Building #18 Carbondale



17. Gate Tower, Seventh Avenue, Carbondale



18. Gate Tower, Eighth Avenue, Carbondale



19. Gate Tower, Fallbrook Street, Carbondale



20. Gate Tower, Pike Street, Carbondale.



21. Old 10-Stall Brick Roundhouse, Carbondale, PA Yard



This roundhouse was north of the 41-stall roundhouse, 10 stalls, each 95 feet deep; turntable 65 feet in diameter; shown on the June 30, 1916 D&H Track Map of Carbondale Yard.

22. Interlocking Tower OU, Lookout Junction, Carbondale



23. Lake Lodore, PA Station



24. Lincoln Avenue Waiting Room, Carbondale, Honesdale Branch



25. Machine Shop Building #5, Carbondale PA Yard

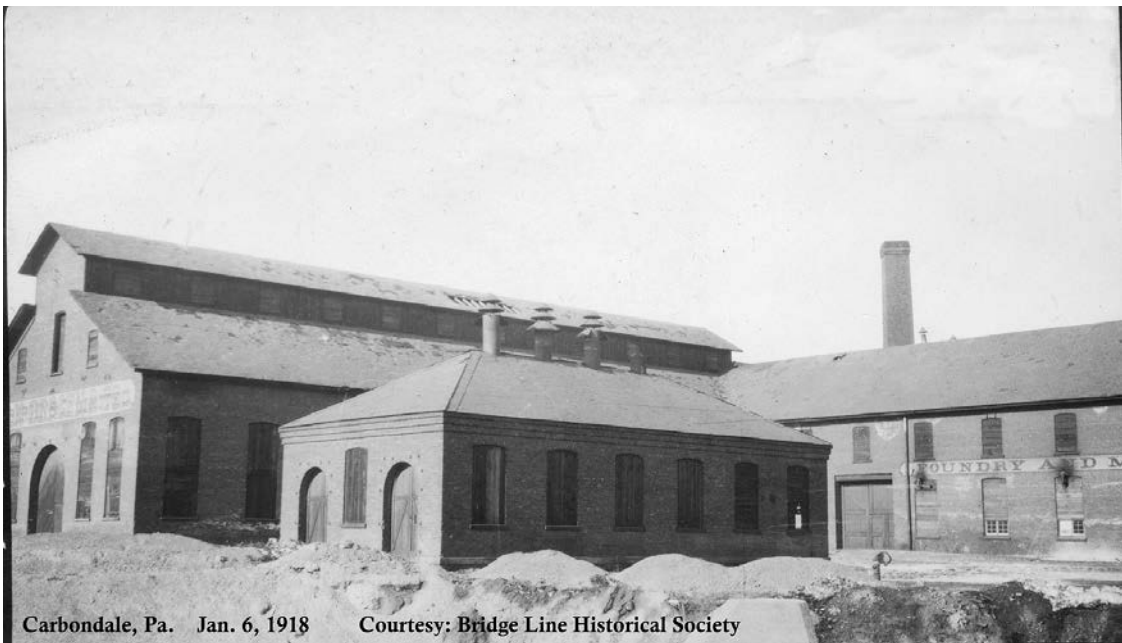


26. Mill Road Bridge, Carbondale, PA Shops



Carbondale, Pa. Jan. 6, 1918 Courtesy: Bridge Line Historical Society

27. Old Foundry and Machine Shop, Carbondale



Carbondale, Pa. Jan. 6, 1918 Courtesy: Bridge Line Historical Society

28. Mess House, Duffy's Field, Childs, PA



21. "Hawleyhenge, September 24, 2019"

On Fri, Aug 30, 2019 at 9:36 PM carlnepa <carlnepa@yahoo.com> wrote:

Hello Dr. Powell:

This is Carl from Honesdale. I noticed something from my vantage point on the train. About 1/2 mile from our station in Hawley to the West along a small road that parallels the tracks, I've noticed these concrete blocks. They are about 3ft square and about 5 ft high. They look like Stonehenge. Most are upright, one or two are laying down and from the train they deceptively looked like a foundation. Viewing them from the road, I saw that what I thought was a foundation is just a couple of the blocks laying sideways on the ground. So, the area around the blocks is not large, maybe 20ft square assuming the blocks are a perimeter. I know you are very interested in the PA COAL CO. GRAVITY LINE. I wonder if these were the foundation for a plane or powerhouse?

Do you have an idea what these are? Sally Talaga was on the train tonight. She viewed the pictures and had no idea what the columns were part of. Tim Wright said he'd check old train maps.

Can you solve the mystery of Hawleyhenge?

Thank you,

Carl & Jason

Here are the photos that Carl sent:

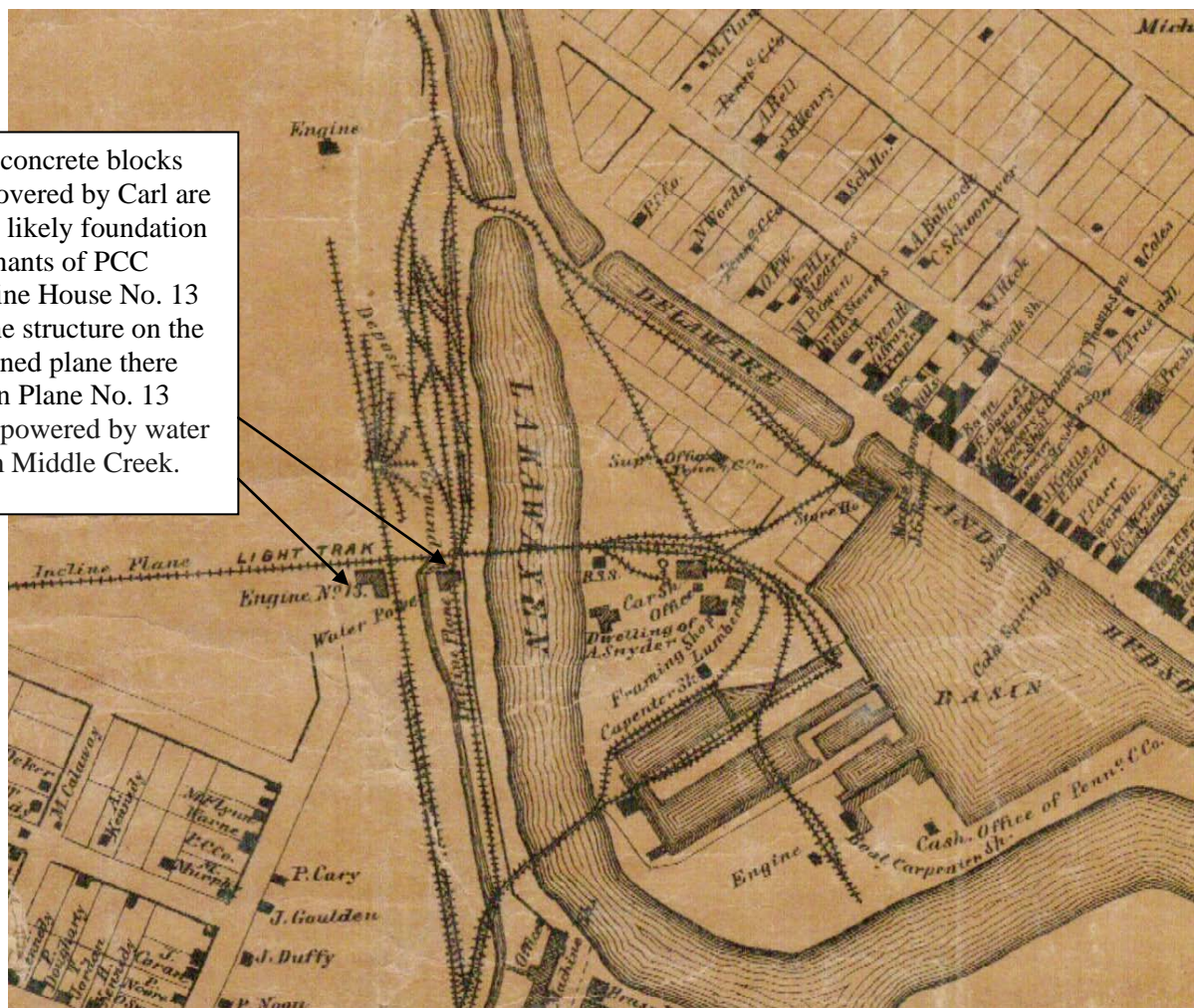


September 24, 2019 / Carl:

Attached is an enlarged detail of the Hawley map from 1860. On this map is the answer to the Hawleyhenge mystery.

SRP

The concrete blocks discovered by Carl are very likely foundation remnants of PCC Engine House No. 13 or the structure on the inclined plane there when Plane No. 13 was powered by water from Middle Creek.



22. *Orange Packet Boat on the D&H Canal*. This was posted on Facebook, October 15, 2019 by the High Falls D&H Canal Museum:

“It was on this day, October 15th, in 1829, that the "Orange Packet" was the first boat to navigate the entire Canal. Packet boats carried mail and passengers. Pictured here is Edward Lamson Henry's "Before the Days of Rapid Transit" which shows passengers on a packet boat on the D&H in Ellenville. It is a watercolor but was widely distributed as a steel engraving, some hand colored, in some cases by Henry or his wife. We have 3 copies in our collection, the best period one is currently on display.”



Edward Lamson Henry's "Before the Days of Rapid Transit"

S. R. Powell made the following comment on *Facebook* on seeing this photo and text:

Silas Robert Powell: May I have one round-trip ticket, please, Honesdale--Ellenville--Honesdale, with a preferred departure from Honesdale on Tuesday next. At Port Jervis, on the voyage out, I would like to dis-embark and visit for three days with some of my mother's cousins, who manage a boarding house there. As I have business matters to attend to in Ellenville, I would like to arrive there before the 26th. Silas Robert

23. D&H and CNJ: Photo of the D&H Hudson Yard by Richard E. Samsel. Photo in Anthracite Railroads Historical Society Archives. Richard John: "The D&H's Hudson yard. CNJ tracks on the left. Up until CNJ pulled out of Pennsylvania, CNJ trains bound for Scranton would get on the D&H tracks here at Hudson and operate north to Minooka Jct. where they would get back onto CNJ rails. Long standing shared track arrangement."



24. S. R. Powell's third Roebling article, which was published in the December 2019 issue of the *Bridge Line Historical Society Bulletin* on pp. 16-18:

Use of Conglomerate Rock in the Delaware and Hudson Canal and Gravity Railroad (Part 1)

By S. Robert Powell, Ph. D.

The D&H used conglomerate rock throughout the transportation system that it constructed between the anthracite coal fields of the Lackawanna and Wyoming Valleys in northeastern Pennsylvania and the Hudson River. Before we look at specific areas where conglomerate rock was used in the construction of the D&H Canal and the Gravity Railroad, it is well that we review some important facts about conglomerate rock.

Conglomerate rock is found only in areas where water once flowed or where glaciers were found, as in the area of the anthracite coal fields of northeastern Pennsylvania and in the Shawangunk Ridge, also known as the Shawangunk Mountains, in Ulster County, Sullivan County and Orange County in southeastern New York, where, during the Pleistocene Epoch, commonly called the Ice Conglomerate Age (which began about 2.6 million years ago and lasted until about 11,700 years ago), huge glaciers were found.

Conglomerate is an extremely hard rock that is very resistant to physical and chemical breakdown relative to surrounding rocks, with most conglomerate having a hardness rating of 8 (diamonds are rated 10). It is a coarse-grained clastic sedimentary rock that is composed of a substantial fraction of rounded to subangular, gravel-sized clasts (granules, pebbles, cobbles, boulders, larger than 2 mm. in diameter). The rounded clasts of conglomerate can be mineral particles, such as quartz or feldspar, or they can be sedimentary, metamorphic, or igneous rock fragments. The clasts are held together/cemented by a matrix of silica, calcite, or iron oxide.

Conglomerate rock is found throughout D&H territory in northeastern Pennsylvania and southeastern New York. In a conversation that we had in October 2008 with Bernadette Slick, a realtor in Forest City, PA, with a passion for collecting Pennsylvania rocks and minerals, Ms. Slick remarked: "The anthracite coal fields of northeastern Pennsylvania were underlaid with conglomerate rock. When the miners ran into conglomerate rock, they knew that they were at the bottom of the coal beds." (That remarkable observation is seconded by *Miller and Sharpless*, p. 8.)

In addition, outcroppings of conglomerate rock are common in northeastern Pennsylvania and southeastern New York. On the top of the Moosic Mountain, above Carbondale, in the vicinity of Plane No. 7 on the D&H Gravity Railroad (1859 configuration), for example, there is a huge outcropping of conglomerate rock (that appears to contain a very high percentage of quartz) that was quarried by the D&H. In the vicinity of Shepherd's Crook on the D&H Gravity Railroad, a

series of waterfalls descends the mountain, in what is sometimes called the Panther Bluff Creek Gorge, in a continuous series of rock pavements and cliffs, starting at an elevation of about 1,750 feet and extending down to the level of the Lackawanna River at about 1,200 feet. These falls are over ledges of Pottsville sandstone and conglomerate.

Outcroppings of conglomerate rock are numerous near the western base of the Shawangunk Mountains in the valley of the Rondout River in New York, where a long, high ridge rises west of the Hudson River and extends, from near High Falls, southwestward between the Rondout and the Wallkill Valleys, past Port Jervis and into the Delaware Water Gap of Pennsylvania and New Jersey. The ridge runs southwest as far as Virginia.

The Shawangunk Formation (largely quartz pebbles or sand embedded in siliceous cement) is thickest northeast of Port Jervis, where it is as much as 1,400 feet thick. It thins to the northeast and disappears a little southwest of Kingston. In its thickest areas, it may have been deposited over as much as 15 million years or more ago.

The virtues of conglomerate rock, most notably its extreme hardness and its resistance to breaking or chipping and to physical and chemical breakdown relative to surrounding rocks, were recognized by stone masons and builders and others in northeastern Pennsylvania and southeastern New York from the time of the first settlements here. The second Carbondale City Hall (now the two-story wing of the present City Hall), for example, which was completed in 1860, sits on a foundation that is largely made of conglomerate rock.



Conglomerate used in foundations



Shawangunk conglomerate

The permanent/forever quality of conglomerate rock made it an ideal choice for cemetery monuments among the pioneer settlers of Clinton Township, Wayne County, PA. Shown here are two of the five conglomerate rock monuments, all with brass plaques attached, that are located in the Clinton Center Baptist Church cemetery between Pleasant Mount and Waymart.



Grennell tombstone



Griswold tombstone

The conglomerate rocks found in the Shawangunk Mountains in a narrow strip ten miles long, between Kerhonkson and High Falls on the northwestern slope of the Shawangunk ridge were composed largely of quartz pebbles and/or sand, cemented together by quartz. These rocks, it was discovered, made excellent millstones, and Esopus millstones (which were regarded by many as superior to the very famous Buhr millstones from France, and which were shipped to market from Kingston, formerly named Esopus) were marketed all across America.

Keeping in mind the fact that the virtues of “native”/local conglomerate rock, an extremely hard rock that is very resistant to physical and chemical breakdown relative to surrounding rocks, were recognized early in the nineteenth century by local stone masons, builders, and architects in northeastern Pennsylvania and southeastern New York, we must now turn our attention to the Delaware and Hudson Canal Company and the structures built by that company to transport anthracite coal to market. We will look, first, at the four aqueducts that were designed and built under the direction of Johann A. Roebling in the late 1840s/early 1850s for the D&H.

What, specifically, did Roebling contract to do for the D&H? What were the responsibilities of the D&H in these construction projects? Here is what Roebling agreed to do when constructing the Delaware and Lackawaxen Aqueducts (and then, by extension, for the Neversink and High Falls Aqueducts): “I agree to put up the superstructure of the Delaware & Lackawaxen Aqueducts, as explained by this specification and the drawings, including all the timber, iron and wire-work, and caulking and painting, and furnish all materials, for the sum of Sixty thousand and Four hundred dollars /\$60,400/--the D & H Canal Company to do all the masonry of the piers and abutments, also the excavation and masonry for the anchorage, the excavation and

puddling for the sheet pilings at the extension, stone cutting for bull heads and studdings, and furnish all the cement required for the anchorage and rest of the work.” (“Specification of the Superstructure of the Wire Cable Suspension Aqueduct over the Delaware River and Lackawaxen Creek, Delaware & Hudson Canal”, dated February 1, 1847 and signed by Roebling in Pittsburgh)

The complete master plan for the aqueducts, it must be kept clearly in mind, was established by Roebling, with the D&H following Roebling’s plan in doing “all the masonry of the piers and abutments, also the excavation and masonry for the anchorage...” Detailed plans for the piers, abutments, and masonry of the anchorages have not come down to us, but, we can with assurance believe that where we now find precision cut conglomerate stones, or cut conglomerate stones with mortar, or field stones, for example, in the Roebling abutments and piers, that those different kinds of stones and masonry presentation represent exactly Roebling’s instructions and master plan, which was executed by the D&H.

The exact nature of the stones used in the piers, abutments, and anchorages was not, as far as we have been able to learn, specified by Roebling, although it is highly probable that he did make known to the D&H and to the masons working on the aqueducts the locations in those structures where the forces of tension and compression in the aqueducts would be the greatest and which, therefore, would require stones and masonry presentation equal to the demands that would be made on those locations in the structures by the weight carried.

Conglomerate rocks, we have learned from careful study of the extant piers and the abutments of the four Roebling D&H aqueducts, were used by the D&H masons who constructed the piers, abutments, and anchorages of the four D&H aqueducts in those locations in those structures where the forces of tension and compression in those aqueducts were the greatest. The question must, therefore, be asked: Whose decision was it to use conglomerate rock in those key locations? Roebling’s or the masons constructing the piers, abutments, and the masonry of the anchorages?

As far as we have been able to determine, Roebling had no previous experience in working with conglomerate rock, and may not have known the virtues of conglomerate rock as a building material. The D&H masons, on the other hand, had a lot of first-hand experience with conglomerate stone. Here is what we now believe took place as construction proceeded: Having learned from Roebling the location of the primary stress points in the bridges, the D&H masons, based on their life experience as masons and builders, recommended to Roebling that conglomerate rock be used in the primary stress points in the aqueducts. Significantly, and not surprisingly, Roebling, an astute and experienced engineer, seconded their recommendation.

In Part 2 of this article, we will take a close look at five specific locations in the Roebling D&H aqueducts where conglomerate stone was used by the masons who constructed the masonry on those four remarkable structures. We will also take a look at the use of conglomerate rock on the D&H Canal (in addition to its use on the four Roebling aqueducts) and Gravity Railroad.

* * * * *

The article given above was published in the December 2019 issue of the *Bridge Line Historical Society Bulletin* on pp. 16-18. I am very pleased to see that Jim Bachorz, in writing the captions for the photos of the Grennell and the Griswold stones in the Clinton Center Cemetery, added to the captions that I wrote the names of the two soldiers whose graves are marked by those conglomerate stones: (1) “The monument for Revolutionary War soldier John Griswold, in the Clinton Center...”, and (2) “The monument for Revolutionary War soldier Michael Grennell, is also in the Clinton Center...”

25. Engraving of Philip Hone by John Rogers, from High Falls D&H Canal Museum, October 25, 2019:



26. Photograph of Patsy and Sam Buonomo; from Dave Buonomo, October 25, 2019:



Pasquale (“Patsy”) and *Salvatore* (“Sam”) Buonomo. Both worked for the D&H in Carbondale and were members of the Carbondale D&H team in the May 21, 1925 car-building competition, held in the Carbondale Yard. Our thanks to Dave Buonomo (grandson of Sam), who made this wonderful photograph available for use here on October 25, 2019.

Both Patsy and Sam were members of the Carbondale team in the May 21, 1925 car-building competition, held in the Carbondale Yard. A comprehensive account of that competition is presented in the June 15, 1925 issue of the *Delaware and Hudson Railroad Bulletin* (see SRP’s D&H Volume XIV, pp. 106-107). Also on that team was Pasquale Cerra, the maternal grandfather of Joseph Pascoe, one of the constituent members of the Carbondale Historical Society.

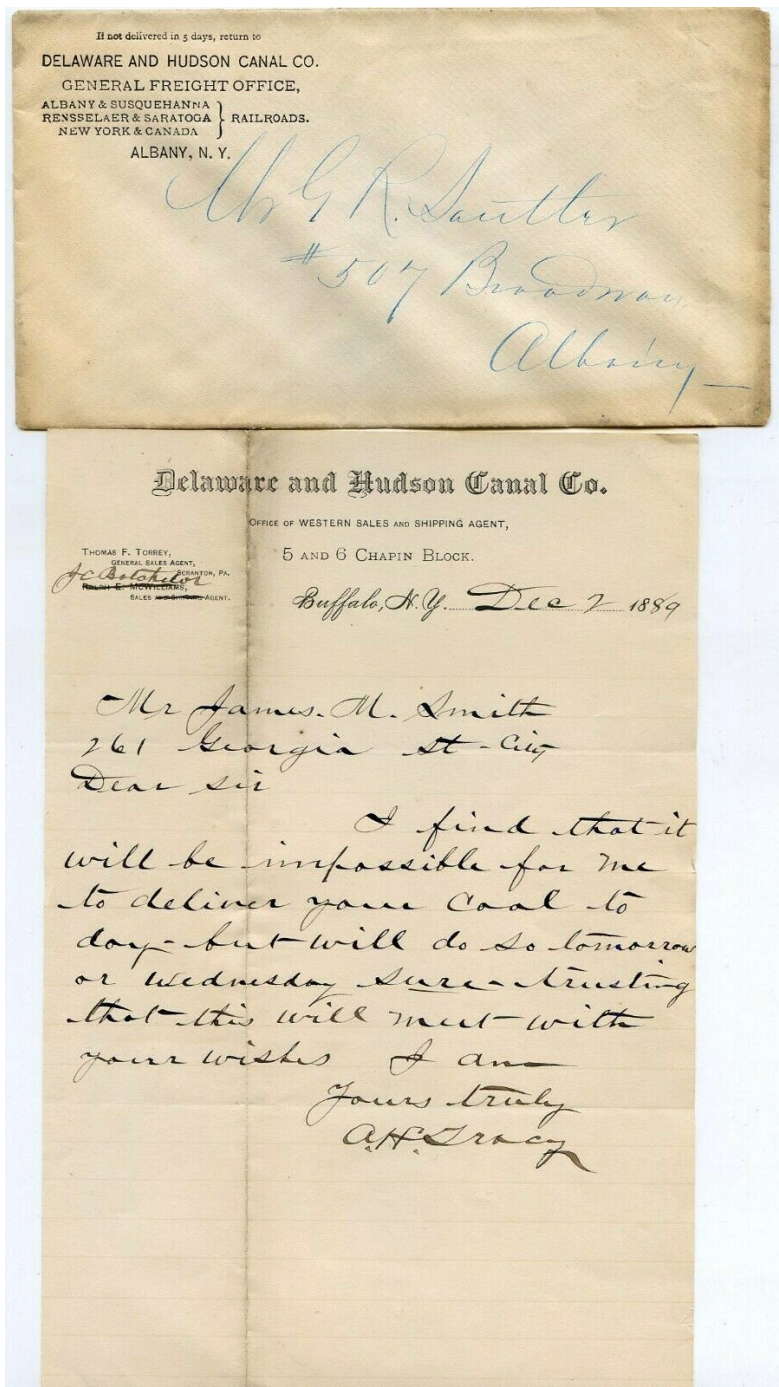
In the caption on the photo of the team, given on page 14 of the June 15, 1925 issue of the *Delaware and Hudson Railroad Bulletin*, Salvatore (“Sam”) Buonomo’s name is incorrectly given as “Semi” (someone mis-read “Sam” to be “Semi”).

27. *Oneonta Yard, 1974*; posted on Facebook, slide bought by Liz Culberton on October 9, 2019:



Oneonta Yard, 1974

28. E-bay letter, Larry Rine reference November 10; bid won by SRP, letter purchased for \$3.00 on November 12, 2019:



29. E. D. LeRoy collection of D&H Canal maps: Lord Butler survey, April 1854, maps in the collection of the Pike County Historical Society, Milford, PA



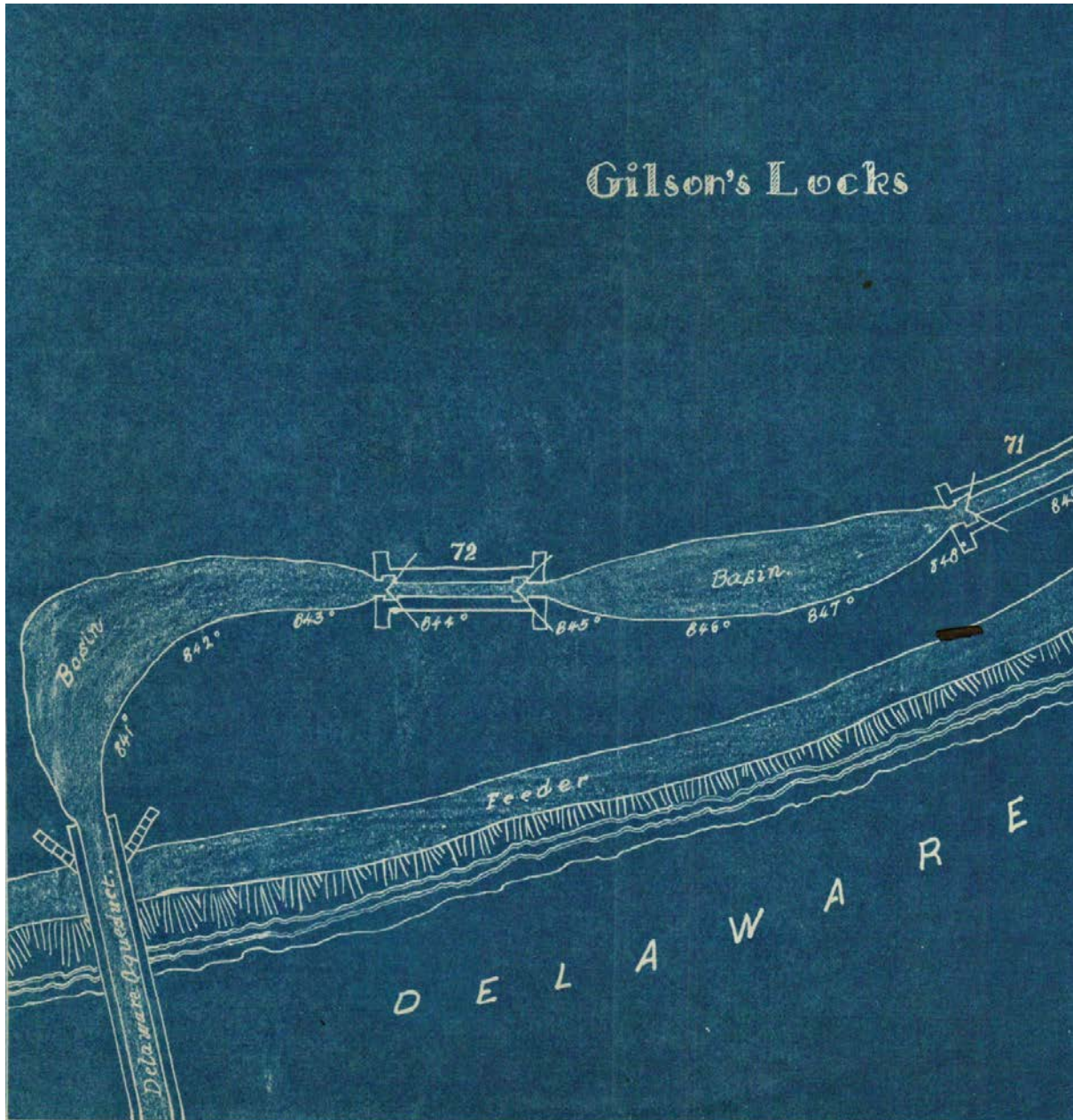
What is known of the Survey by Lord Butler, April 1854?

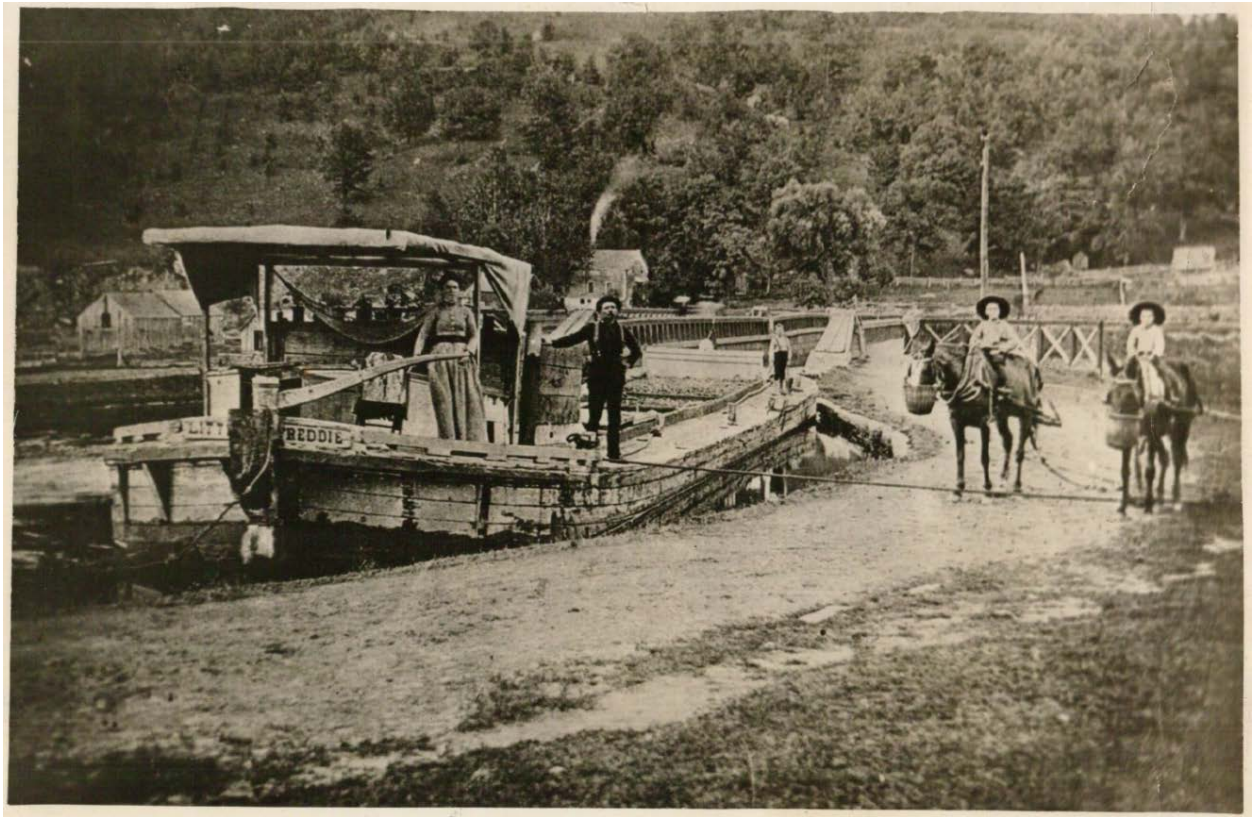
Volume V, PCC/D&HCCo court battle/pleadings and testimony , p. 2635: “I [Lord Butler, age 53, civil engineer, residing at Wilkes-Barre] made a survey of that canal [measurements of the canal along the line of the towing path at 100 feet stations, and at intermediate stations of 50 feet in some cases; cross sectional measurements of the bottom and top of the canal were made at each station] for the Pennsylvania Coal Company, between Hawley and Port Jervis; I commenced the survey April 3d, 1854, and completed it on 27th April...”

Bill Merchant, D&H Canal Museum, High Falls, NY said (11-08-2019) that the LeRoy “papers” are probably in the National Canal Museum in Easton, PA.

These blueprints were produced by E. D. LeRoy, with the intention, it seems likely, of preserving original drawings/sketches by Lord Butler (which are not in the archives at the Pike County Historical Society).

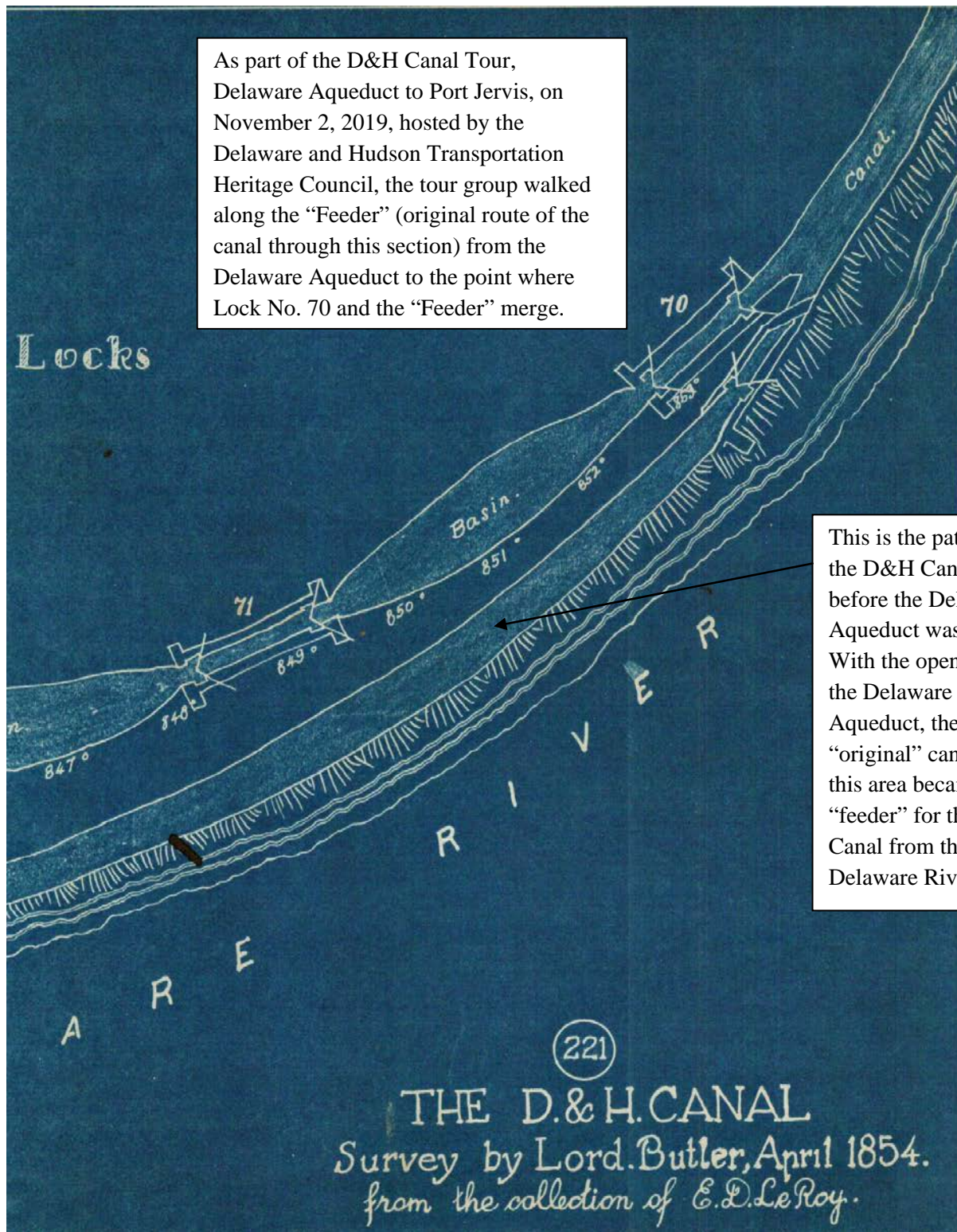
Delaware Aqueduct, Gilson's Locks: Nos. 72, 71, and 70:



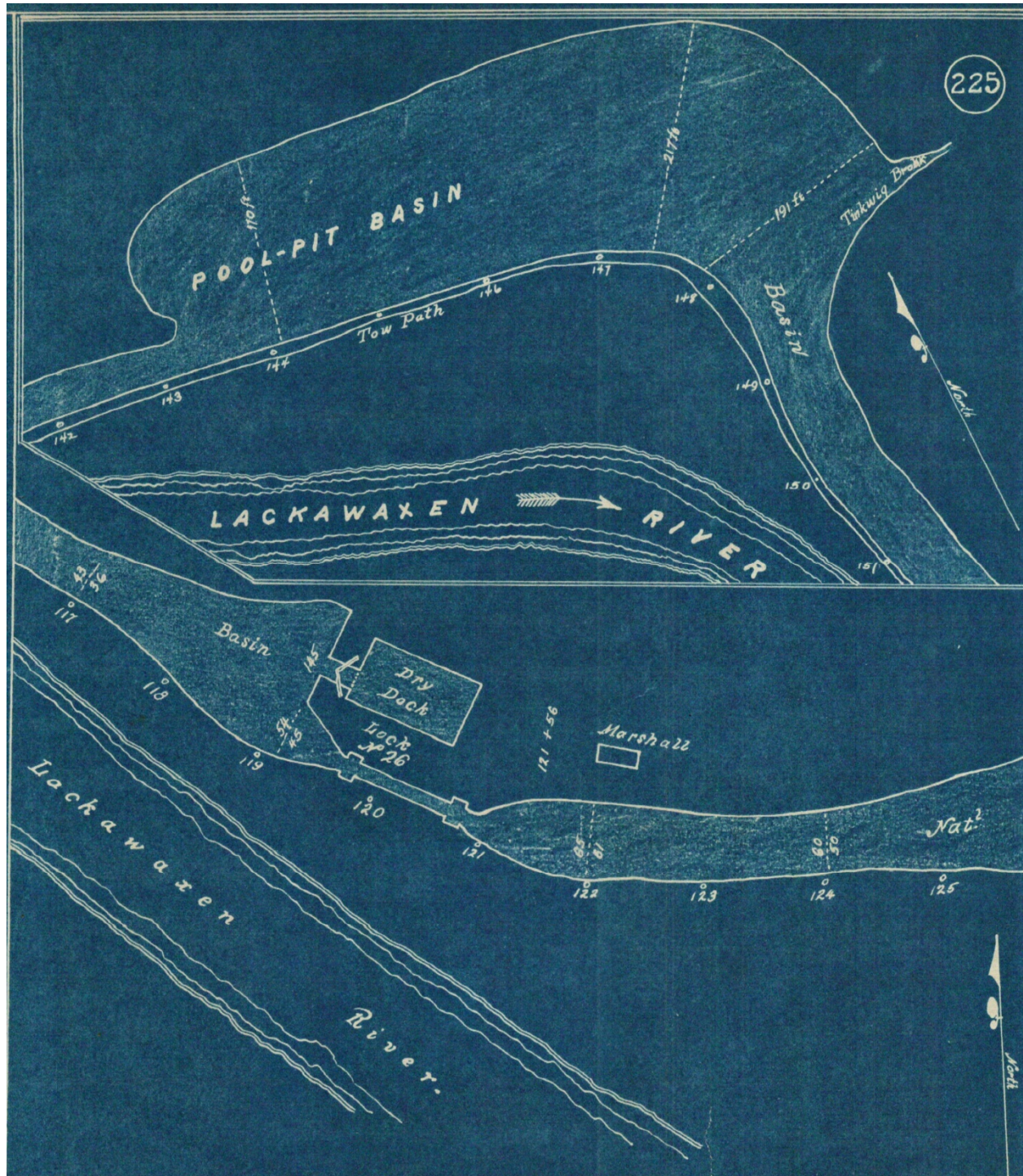


"Little Freddie," Loaded, Waiting to Cross the Delaware Aqueduct. Original print of the photo, in the archives of the Pike County Historical Society at Milford, PA, with the following caption: "Little Freddie" Waiting at the Delaware Aqueduct for a Light Boat to Pass, 1886". Photo copied by SRP on September 20, 2013.

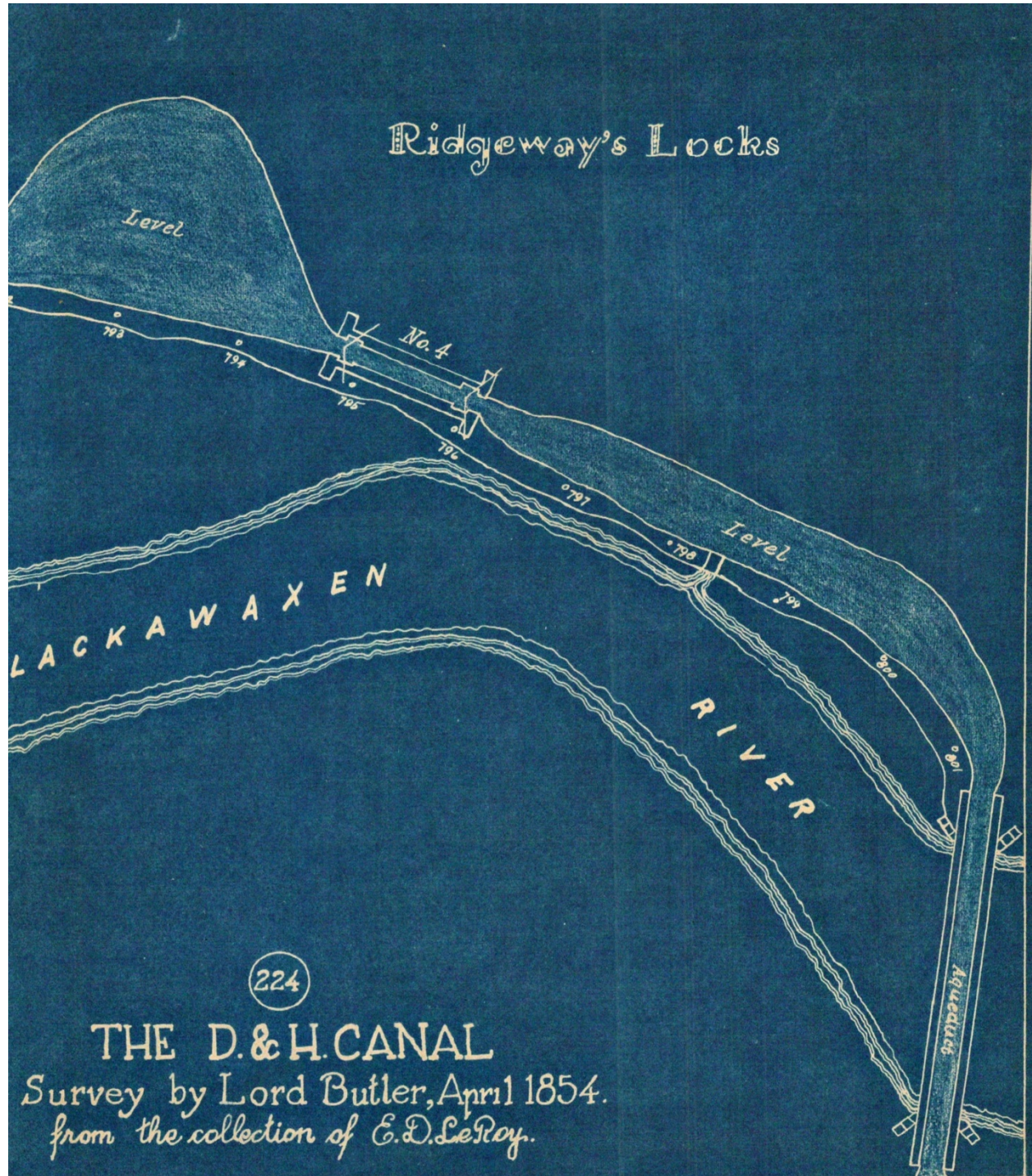
Comment by Bill Merchant, November 12, 2019: "I always thought the *Little Freddie* was at the approach to the Lackawaxen aqueduct- I will have to see what our catalogue says."



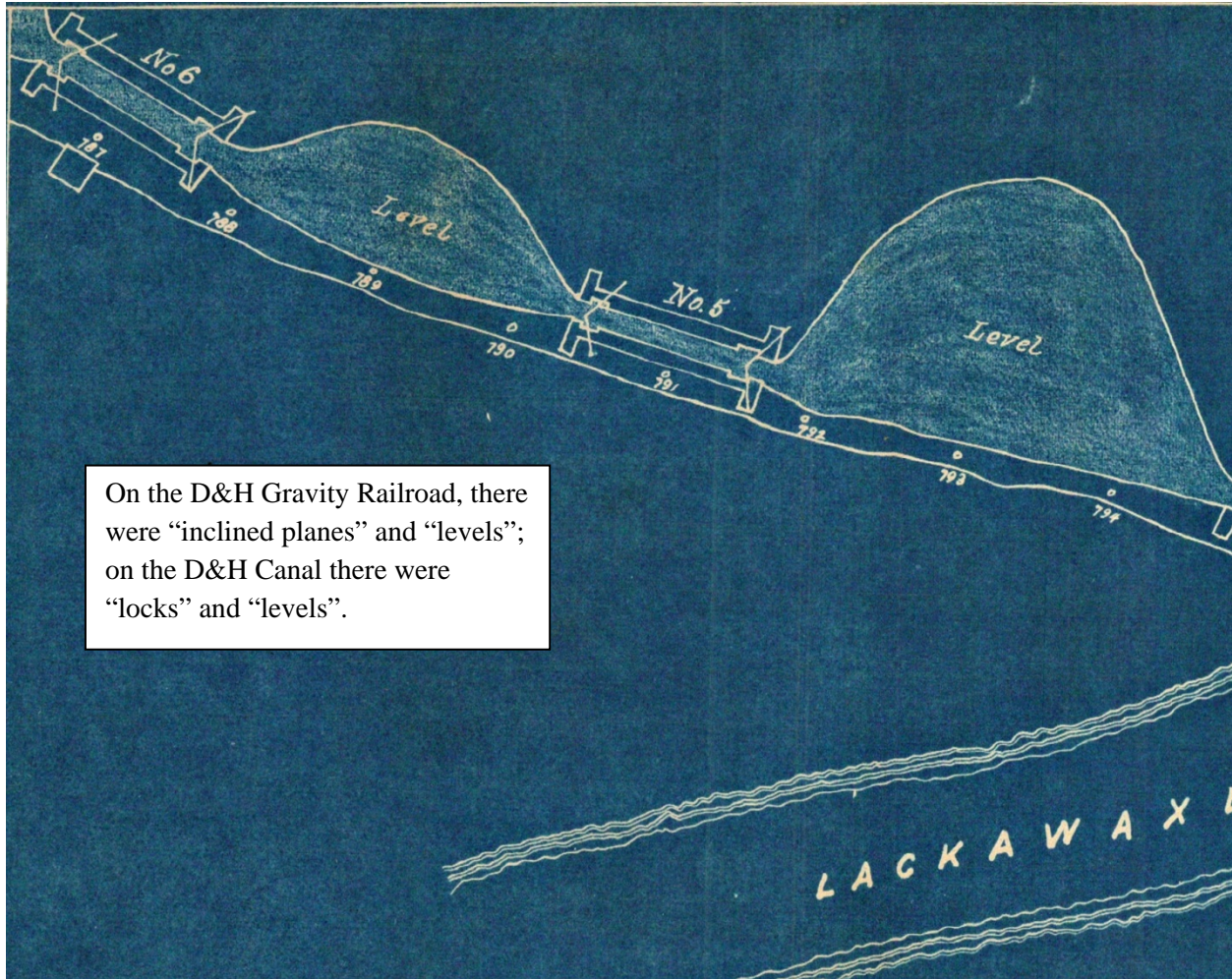
Pool-Pit Basin and Lock 26:



Ridgeway's Locks: Nos. 4, 5, and 6, and the Lackawaxen Aqueduct:



Locks 5 and 6:



Also in the archives at the Pike County Historical Society is the view of Port Jervis shown here, taken from the mountain above Port Jervis. The D&H Canal can be clearly seen in this photograph.



Port Jervis, NY. The D&H Canal can be seen in the foreground, curving to the upper left. This is an original print of this photograph.

Twelve other Canal photos (most probably all D&H Canal) in the archives at the Pike County Historical Society (Numbered 1-12):



1



2 Along Delaware section
in NY (BM, 11-12-19).



3 Ellenville (BM, 11-12-19)



4



5 Below Hawk's Nest



6



7 Island Dock



8 Creek locks (BM 11-12-19)



9 "Bonnie Bell" at Lock 72

More on No. 9: Caption on photo in the archives of the Pike County Historical Society: "*Bonnie Belle* has just crossed the Delaware Aqueduct and is heading into Lock 72. The ground to the left is an island built to help the boats make the sharp turn..."



10



11



Phillipsport (BM, 11-12-19)

30. Two photos of Plane No. 4, Pike County Historical Society, scanned 09-20-2013, comments by Stacy Gardner:

Honesdale
Turnpike
Bridge

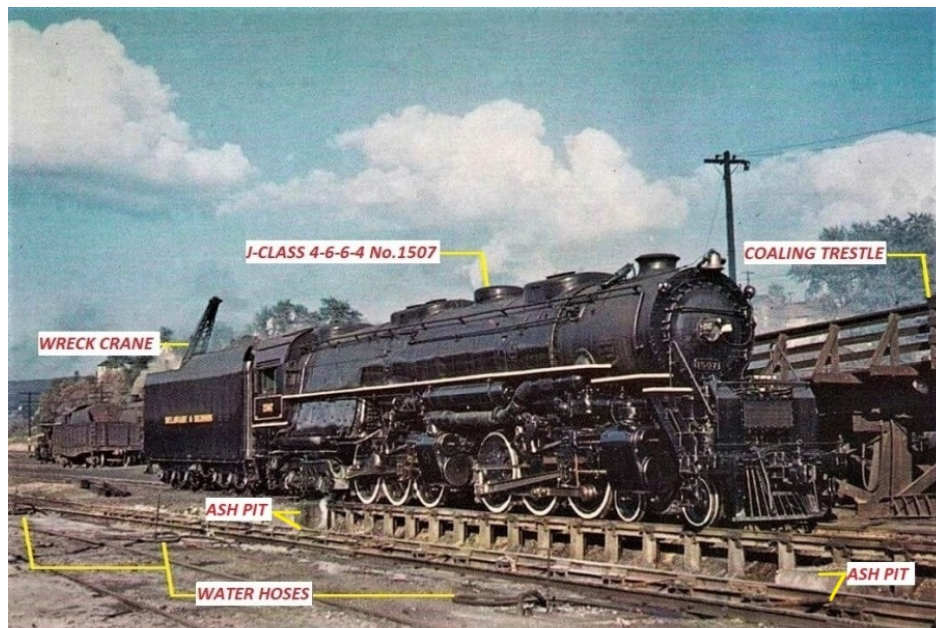


Stacy Gardner, November 12, 2019: "This is a view of the Honesdale Turnpike Bridge, from the upper part of Plane No. 4."



Stacy Gardner, November 12, 2019: "This is a view of the back of the Racket Brook Breaker, as seen from the Honesdale Turnpike Bridge that crossed the plane."

31. *D&H No. 1507*; identification labels by Stacy Gardner, November 12, 2019:



View looking northeast at a D&H J-Class 4-6-6-4 "Challenger" No. 1507 on the ash pit located on the west side of the yard's coaling trestle. A duplicate ash pit is located on the opposite side of the coaling trestle. Note the wreck crane operating just above the Challenger's tender.

**D&H RAILROAD
CARBONDALE, PA.
"CARBONDALE RR YARD"
CIRCA 1940s**

32. *Lackawaxen Aqueduct, Lackawaxen, PA.* Photograph in the collection of the Pike County Historical Society, Milford, PA; photographed by S. R. Powell on September 20, 2013:



The caption on this photograph of the Lackawaxen Aqueduct, in the collection of the Pike County Historical Society, is as follows: “There were double tow paths from Delaware Lock 72 to Lackawaxen Lock No. 4.”

33. D&H wreck crane photo, from Stacy Gardner, November 14, 2019:

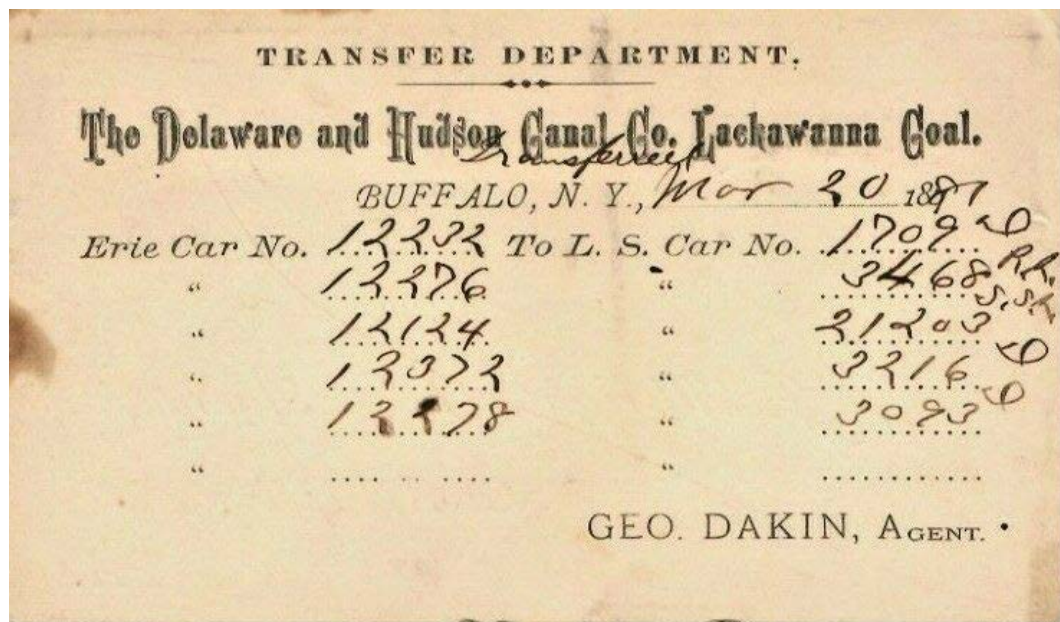


Pictured from left to right are D&H caboose No.35712, wreck crane idler gondola No.30088, 160 ton wreck crane No.30021, and wreck crane idler gondola No.30117 all on a siding within the yard at Oneonta.

**D&H RAILROAD
ONEONTA, N.Y.
"ONEONTA RR YARD"
1989**

34. Three D&H items found by Larry Rine on E-Bay, November 23, 2019:

Item 1:



Item 2:

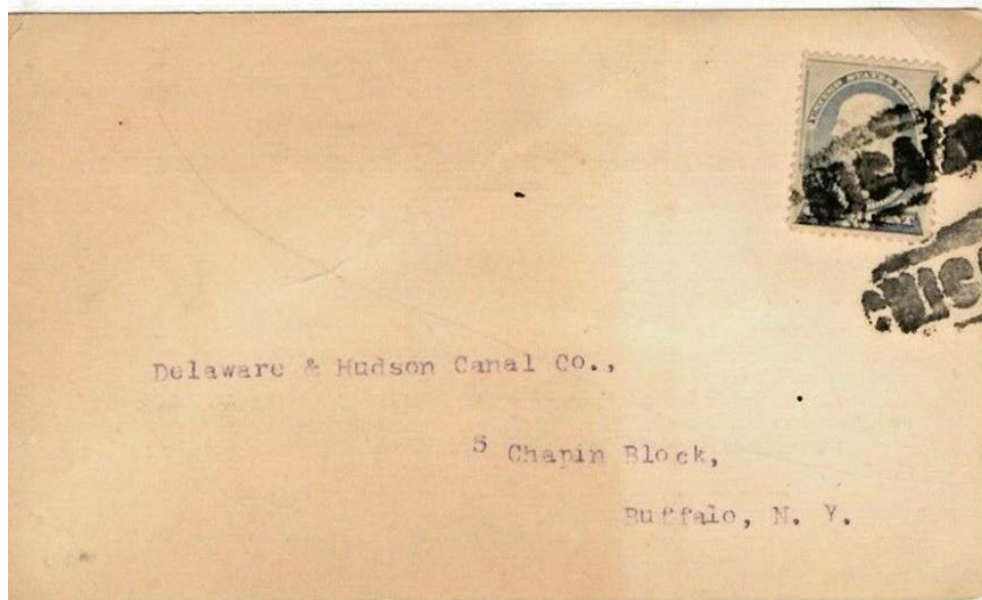
COAL DEALERS BLUE BOOK.
SPECIAL CONFIDENTIAL CREDITS.
Issued Semi-Annually by the J. B. SANBORN CO.

DEAR SIR: The March, 1888, issue of the BLUE BOOK contains a list of all Coal Dealers, Miners and Shippers in the United States; also car-lot consumers, including Foundries, Iron Works, Steam Mills, Elevators, etc. Gives Railroads, Express Companies, Populations and Banks. Is the only accurate, reliable list ever published. Gives capital and pay ratings whether prompt or slow. Corrections made weekly by sheets of changes. WILL BE SENT FOR INSPECTION FREE OF EXPENSE to any firm who desire to examine, with privilege of returning within five days.

The Edition is limited, requests will be filed in order received. Advise us if you desire to see the book.

We refer to nearly 500 Miners and Jobbers of coal now using the work in the West.

THE J. B. SANBORN COMPANY,
278-280 BROADWAY, NEW YORK. 142 DEARBORN STREET, CHICAGO.



Item 3:

(7-16-79-2000.) (FORM 36.)

Del. Lack. & Mt. R.R. Co
To *The Delaware and Hudson Canal Company,*
PENNSYLVANIA DIVISION. *Dr.*

1880

Oct.	For Switching & hauling Re Coal from Plymouth In. to Borden Mine				
8	6 Cars				
14	4 "				
26	5 " 15 Cars @ .50+				7 50

D. & H. C. Co. R. R.
PENN. DIV.
FEE
17
1881
CARBONDALE.

Pennsylvania Division rubber stamp imprint shown on invoice given above:



35. S. Robert Powell's Roebling article No. 4, given below, and published in the January 2020 issue of the *Bridge Line Historical Society Bulletin* on pages 16-18:

Use of Conglomerate Rock in the Delaware and Hudson Canal and Gravity Railroad (Part 2)

By S. Robert Powell, Ph. D.

Conglomerate rock, an extremely hard rock that is very resistant to physical and chemical breakdown relative to surrounding rocks, was widely used by the D&H masons who constructed the piers, pyramids, cable anchoring system masonry, and abutments in all four of the D&H aqueducts designed by Johann Roebling. Using conglomerate stone in those four locations, given the intrinsic qualities of conglomerate stone, made it highly unlikely that flaking off or weakening of the stones supporting the cables and the anchor chains would ever take place, in which case the structure of the bridges would have been seriously compromised and, in all probability, the four aqueducts would have collapsed.

Through on-site study of the four Roebling aqueducts and research in the Roebling papers at Rensselaer Polytechnic Institute and in the archives of the Minisink Valley Historical Society in Port Jervis, we have learned the following facts about the composition of the piers, pyramids, cable anchoring masonry, and abutments of the four Roebling D&H aqueducts:

River piers, abutments, and ice breakers on the Delaware Aqueduct, and river pier and abutments on the Lackawaxen Aqueduct: In the 1983 *Historic Structure Report / Historical Data Section / The Delaware Aqueduct / Upper Delaware National Scenic and Recreational River, New York - Pennsylvania*, by Harlan D. Unrau, we read: "On July 7, 1849, after the aqueducts had been in service for several months, another description of the structures appeared in the American Railroad Journal: The Wire Suspension Aqueducts, over the Delaware and the Lackawaxen rivers, which were commenced in 1846 and recently completed by the Delaware and Hudson Canal Company, are now opened for the passage of boats... The masonry of the piers and abutments, which support the little towers [the pyramids on the piers and abutments], has been executed in the most substantial manner, of a durable and compact gray wacke [a finely grained conglomerate rock composed of firmly cemented fragments of quartz] which constitutes the principal formation of the valley of the upper Delaware. The beds of the facestone are all cut, the backing is large and well bounded, and the whole laid in hydraulic cement. Nothing has been spared to insure the safety of the foundations, and, by the construction of good ice breakers, to guard the piers against the heavy floods and ice, which in this river prove sometimes very violent and destructive."

Pyramids, both on the Delaware and Lackawaxen piers and on the abutments on all four bridges: In *Unrau*, cited above, we read: "The towers [the pyramids, each in the shape of an isosceles trapezoidal prism] are each composed of 3 blocks [levels] of a white quartz pudding

stone [a conglomerate rock, precision cut, with no mortar used between the stones], of great hardness and durability, obtained from the quarries in Ulster county, N. Y.”

Cable anchoring system in all four aqueducts: large rectangular blocks of conglomerate stone (numbered 1-6 in the Roebling drawing given in the Roebling patent application), on top of which are placed smaller blocks of conglomerate, on top of which rests the anchor chain--the whole unit curving downward from the connection of the cable to the anchor chain to the anchor plate is encased in Rosendale cement.

Abutments: in the area directly below the pyramids in the canal prism and in the central, or core, section of the river abutment fronts in all four bridges, precision-cut graywacke conglomerate stone. The stones in the central core of the abutments on the Lackawaxen, Neversink and High Falls bridges are not set in hydraulic cement; those on the Delaware bridge are. To the wings of the abutments on the Lackawaxen, the Delaware, and the Neversink rivers, flood-protection masonry insulates the core/structural center of the abutments from high water: on the bridge at Lackawaxen, dry laid field stones, now largely washed away; on the Delaware Aqueduct, on the New York shore, dry laid field stones, greywacke conglomerate, and sandstone on both sides of the central core, on the Pennsylvania shore, greywacke conglomerate stones set in Rosendale cement mortar; on the Neversink Aqueduct, dry laid field stones on both sides of the central core of the abutment; at High Falls, no flood protection masonry on the sides of the core of the abutment. (It has not yet been established whether or not the flood-protection masonry on the wings of the Lackawaxen, Delaware, and Neversink aqueducts was put in place when the bridges were built or at a later date. A preliminary observation is that some of the flood-protection masonry may have been installed at the time of the construction of the bridges, and some at a later date.)

The complete master plan for the four D&H aqueducts, we must not forget, was established by Roebling, with the D&H following Roebling’s plan in erecting “all the masonry of the piers and abutments, also the excavation and masonry for the anchorage...” Detailed plans for the piers, abutments, and masonry of the anchorages have not come down to us, but, we can with assurance believe that where we now find precision cut stones, or cut stones with mortar, or dry-laid field stones, for example, in the Roebling abutments and piers, that those different kinds of stones and masonry presentation represent exactly Roebling’s instructions and master plan, which was executed by the D&H.

The exact nature of the stones used in the piers, abutments, and anchorages was not, as far as we have been able to learn, specified by Roebling, although it is reasonable to believe that he did make known to the D&H and to the masons working on the aqueducts the locations in those structures where the forces of tension and compression in the aqueducts would be the greatest and which, therefore, would require stones and masonry presentation equal to the demands that would be made on those locations in the structure by the weight carried.

Having learned from Roebling, then, the locations of the primary stress points (tension and compression) in the bridges, it is our contention that the D&H masons, based on their life experience as masons and builders recommended to Roebling that conglomerate rock be used in the primary stress points in the aqueducts. Significantly, and not surprisingly, Roebling, an astute and experienced engineer, seconded their recommendation. Conglomerate stones were, accordingly, widely used in the four aqueducts.

Inscribed on one of the stones in the pyramid of conglomerate rock (white quartz pudding stone) on the up-river abutment on the north side of the river at High Falls, a photograph of which is given here, is the following:

J. A. ROEBLING, superstructure
G. WATSON, mason
Built A. D. 1848



Signature stone on High Falls abutment

Who was George Watson? He was a friend of John B. Jervis, who was hired by Russel F. Lord in May 1846 to begin preparations for the masonry of the Delaware Aqueduct. To the best our knowledge, Watson served under Russel F. Lord as the mason in charge of all the masonry construction on all four of the Roebling aqueducts.

It is not unreasonable to believe that George Watson, having supervised the construction of the masonry on the four aqueducts, was very proud of his work and wished to commemorate the importance of his contribution to the success of the four aqueducts. He did so by inscribing his name, on one of the pyramid stones on the High Falls aqueduct, below that of J. A. Roebling. (Note: The Watson inscription appears to have been consciously defaced/damaged over the years.)

In addition to using conglomerate stone in the construction of the four Roebling D&H aqueducts, the D&H also used precision-cut conglomerate stone in building no fewer than 13 locks (wood lining not needed with precision-cut stones in the locks) on the D&H Canal, including “the five locks” (Nos. 16-20) at High Falls.

The D&H also used conglomerate stones on the railroad segment of its transportation system between Carbondale and Honesdale in no fewer than two areas:(1) as foundation stones upon which the stationary steam engines were placed at the head of inclined planes on the Gravity Road, and (2) in the abutments on the many trestles on the loaded and light tracks on the D&H Gravity Railroad. We see here the stationary engine foundation on Plane No. 14 on the light track on the Gravity Railroad; also an abutment on the light track on Level No. 20 between Farview and Archbald.



Stationary engine foundation



Light track abutment

Conglomerate rock, then, was an important building material that was used by the D&H both in structures on the D&H Canal and the D&H Gravity Railroad. It was used for two reasons: (1) it was a building material that had qualities (extreme hardness, resistance to physical and chemical breakdown relative to surrounding rocks; in the Shawangunks, conglomerate was popularly known as “Shawangunk granite”) that made it an ideal building material for the canal and railroad structures to be constructed, (2) it was not only available but also abundant in the area served by the Delaware and Hudson Gravity Railroad and Canal.



Johann A. Roebling's Delaware Aqueduct, with conglomerate stone used in its piers, abutments, and anchorage system, 171 years after construction

* * * * *

36. D&H Canal Lock No. 1: Shown here is a notice that was published in the *Ulster Plebian* of December 2, 1826, about the laying of the Perfect Ashlar* on Lock No. 1 on the D&H Canal on November 25, 1826; notice posted on *Facebook* on November 25, 2019 by the D&H Canal Museum, High Falls, NY, with this message: "It was on this day, November 25, 1826, that a marble capstone was laid in Eddyville, celebrating the completion of the Rondout section of the Canal, with an impressive Masonic ceremony and many speeches."

***Ashlar** (/ˈæʃlər/) is finely dressed (cut, worked) stone, either an individual stone that was worked until squared or the structure built from it. **Ashlar** is the finest stone masonry unit, generally rectangular cuboid, mentioned by Vitruvius as opus isodomum, or less frequently trapezoidal.

In Freemasonry, there are 2 forms of ashlar.

Rough Ashlar

In operative Freemasonry, the rough ashlar represents a rough, unprepared or undressed stone. In speculative Freemasonry, a rough ashlar is an allegory to the uninitiated Freemason prior to his discovering enlightenment.

Perfect Ashlar

Operatively, the Perfect ashlar represents the dressed stone (after it has been made uniform and smoothed) by use of the working tools, the common gavel, (mallet) and chisel. (The chisel may be found in English Freemasonry, but is not used in the United States as a Freemason symbol.)


Only after the stone has been dressed by an experienced stonemason, can it be suitable to be placed into the architectural structure or building.

Speculatively, a Perfect Ashlar is an allegory to a Freemason who, through Masonic education, works to achieve an upstanding life and diligently strives to obtain enlightenment.

ENGINEERS,
Benjamin Wright, Chief.
John B. Jervis, Assistant.
James S. McEntee, Resident
Inspector of Masonry--
John Stewart

Builders,
Hezekiah Sage, Jun.
Samuel Farwell,
Charles Cook,

[From the Ulster Plebeian.]



Delaware and Hudson Canal.—The celebration of laying the Perfect Ashler, or Marble Stone, in completion of the first Lock on this Canal, at Eddyville, near this village, was held, under the superintendence of the Masonic fraternity, of this place, on Saturday last, pursuant to public notice in the Plebeian of last week. The occasion presented a novel and interesting scene to hundreds of spectators who lined the banks of the canal, in witnessing not only the laying of the stone but the passing of a canal-boat with the music of the Kingston band, through several of the locks, to the especial delight of a great number of ladies, who were passengers in the boat, during the performance.

It had been anticipated that a boat would have been run all the way through, from the Delaware to the Hudson. We have not yet been informed of the cause of the public disappointment in that respect, as it is generally understood that this section of the canal is nearly completed.

We have received the following description of the Perfect Ashler, the laying whereof was celebrated as above, and which appears very conspicuous as you approach the lock on the canal.

"At the top is a beautiful Marble Stone, 3½ feet in length, let into the coping, on which is inscribed, in letters of gold, the name of

DE WITT CLINTON,
Governor.

"Beneath which is the perfect Ashler, or marble stone with the following inscription :

DELAWARE AND HUDSON CANAL.

MANAGERS.

PHILIP HONE,	B. W. ROGERS,
G. B. ADELL,	JOHN HUNTER,
S. WHITTEMORE,	T. TILSTON,
H. B. PIERPONT,	W. W. RUSSELL,
R. L. LORD,	W. CALDER,
HENRY THOMAS,	W. H. IRELAND.

JOHN BOLTON, *President.*
S. FLEWELLING, *Treasurer.*
MAURICE WURTS, *Agent.*

ENGINEERS,
BENJAMIN WRIGHT, *Chief.*
JOHN B. JERVIS, *Assistant.*
JAMES S. MCENTER, *Resident.*
Inspector of Masonry--
JOHN STEWART.

Commenced August 1825.
Completed from the Hudson to the Delaware.

HEZEKIAH SAGE, Jun.	} Builders,
SAMUEL FARWELL,	
CHARLES COOK,	

37. Gravity steam locomotives: *Honesdale* and *Lackawanna*. Both photographs offered for sale on E-Bay by a Carbondale antique dealer, each for \$180:



Honesdale: D&H Engine No. 3, 0-4-0, Gravity gauge, 4-wheel switcher, re-named “Terrapin”. Built in 1861 by W. Cooke & Co., Scranton, retired 1899; name changed to “Col. Ellsworth,” soon after that brave officer’s assassination in Alexandria, VA. This engine was next called the “Fire Plume”. As it was too small for the work at Olyphant, it was kept there only a short time, and then did duty on the company’s docks in Honesdale under the name “Honesdale”.



Lackawanna: D&H Engine No. 4 and Dickson No. 1, 0-6-0, Gravity gauge, 6-wheel switcher; built by the Dickson Manufacturing Company, March 31, 1862, serial number ‘O,’ type 0-6-0, with twelve by eighteen inch cylinders and forty-two inch drivers. It burned anthracite. The boiler diameter was thirty-six inches and the total weight of engine was forty-two thousand pounds. It was built for use between Olyphant and the mines; later sent to Honesdale. It was scrapped in 1899.

For additional information on these two engines, see SRP Volume XV, pp. 19-23.

38. T. C. Connolly: author of *The Gravity” History of The Pennsylvania Coal Company Railroad 1850-1885*:



T. C. Connolly was the daughter of James Connolly, 1908 Green Ridge Street, and Catherine McHugh. She graduated with honors from Dunmore Senior High School. She had a B.S. and a M.S. in history and was elected to *Who's Who in American Colleges and Universities*. She was a member of Phi Alpha Theta, the national history fraternity. She taught at South Scranton Junior High School and served as chairman of the history and social studies department.

In 1972, Mary Theresa “T. C.” Connolly published “The Gravity” History of The Pennsylvania Coal Company Railroad 1850-1885.” The book was written to fulfill requirements for her Master’s Degree from Marywood University. It was written under the direction of Dr. John Barrett, chairman of the History Department.

With a maternal grandfather, Martin Loughney, his brother Michael, and five of Martin’s six sons all working for, at one time, either the Erie Railroad, or on the Pennsylvania Gravity, Miss Connolly must have indeed been exposed to a good deal of railroad talk around her home.

Mary Teresa (or “TC” as she was known throughout the area) gathered the name of every employee who ever worked on the PCC Gravity Railroad railroad and told the exact location of

his work. As a history teacher at South Scranton Junior High School, she used much of the material in her Pennsylvania history classes.

The five, fact-filled, chapters of TC's book on the Pennsylvania Gravity Railroad are titled:

- I. The Initial Development of the Pennsylvania Coal Company Railroad
- II. Trackage
- III. Cars
- IV. Crews
- V. Passenger and Freight
- VI. The End of an Era

There are 15 photographs in the book.

Here is the newspaper article that was published about TC's book:

A HISTORY OF PENNSYLVANIA COAL CO. RAILROAD

Master Degree Thesis Results in History Text

SOUTH SCRANTON

By MARY LOU LANGAN

A South Scranton school teacher has immortalized many Dunmore residents in a book written recently on the history of the Pennsylvania Coal Co. Railroad which is presently being serialized in a Wyoming County paper.

Miss Mary Theresa Connolly, a resident of Dunmore, has told the story of many 19th century coal and railroad workers all along the "gravity line" as well as tracing the history of the entire railroad from its first to last run.

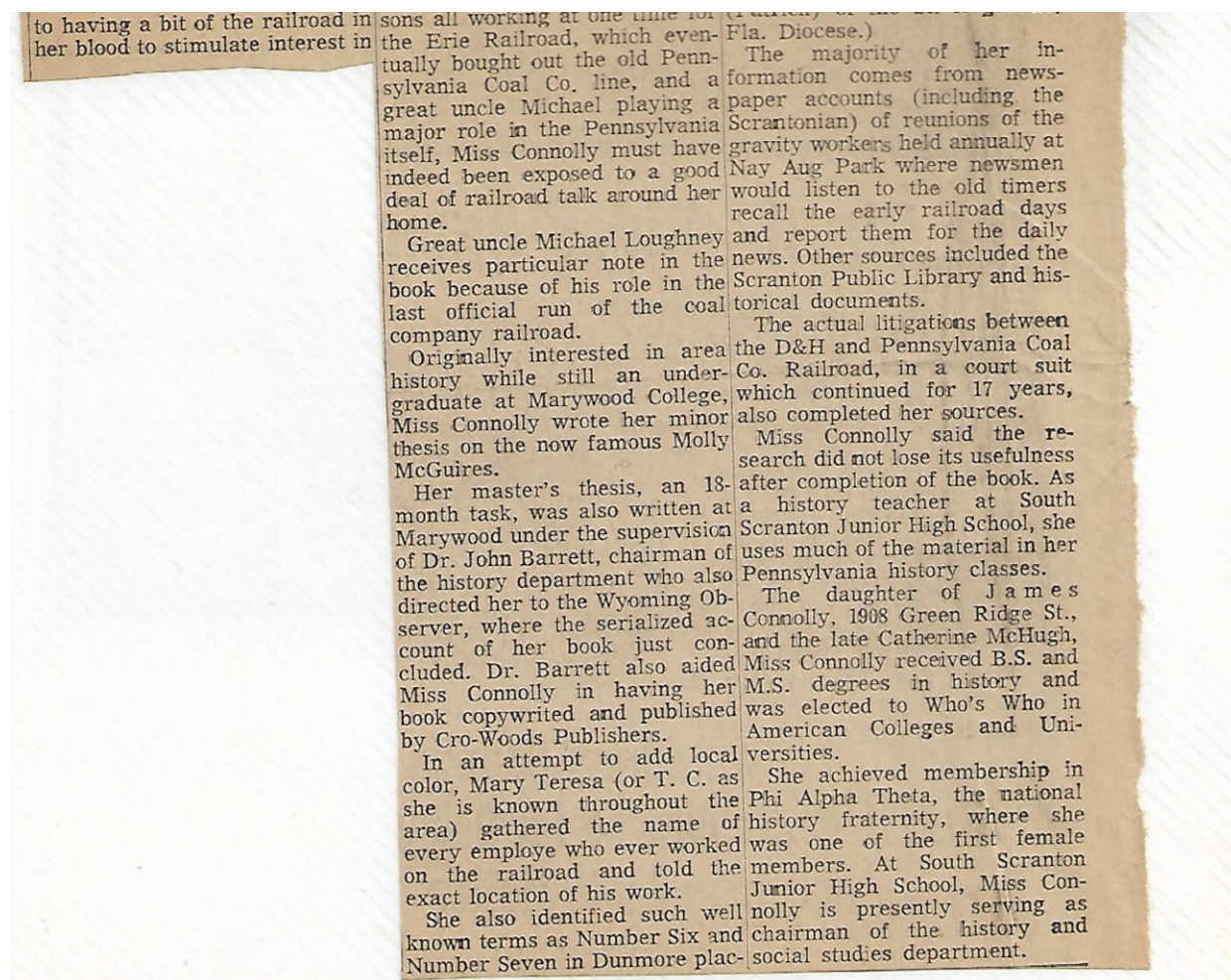
This monumental task was originally done to fulfill requirements for her master degree thesis, but Miss Connolly admits to having a bit of the railroad in her blood to stimulate interest in the historical account.

With a maternal grandfather, Martin Loughney, and his six sons all working at one time for the Erie Railroad, which eventually bought out the old Pennsylvania Coal Co. line, and a great uncle Michael playing a major role in the Pennsylvania itself, Miss Connolly must have indeed been exposed to a good deal of railroad talk around her home.

ing them at Gannon's Drug Store and Route 611 respectively.

In addition to giving the technical historical account of the gravity, she added such sidelights as the fact that the fathers of four bishops in the Catholic Church worked on the line (including the fathers of Bishops Michael Hoban (Patrick), Scranton Diocese; Eugene A. Garvey, (Michael), Altoona Diocese; and Willard J. Keeny, (Patrick) of the St. Augustine, Fla. Diocese.)

The majority of her information comes from newspaper accounts (including the Scrantonian) of reunions of the gravity workers held annually at Nay Aug Park where newsmen would listen to the old timers recall the early railroad days



39. D&H Passenger Cars, 1974-1977:

Arthur House to Delaware and Hudson Railroad Facebook group, December 3, 2019: "I really enjoyed Geoffrey Doughty's "D&H Through Passenger Service in Color," published by Morning Sun earlier this year. But one thing he omits is a comprehensive listing of the names assigned to D&H passenger cars for the 1974-77 period in which the Adirondack was assigned D&H rolling stock and locomotives. (He does have some great photos of some of these cars, including the names.) Anyway, from a variety of sources, I've put together what I think is a comprehensive list of those car names, and attach it below."

New car names applied to D&H passenger cars 1974-77

Coach 31 *Ausable River*

Coach 32 *Bulwagga Bay*

Coach 33 *Mt. Marcy*

Coach 34 *Whiteface Mountain*

Skyline buffet-lounge dome 35 *Willsboro Point**

Skyline buffet-lounge dome 36 *Bluff Point**

Diner lounge 41 *Saratoga Inn*

Diner Lounge 42 *Adirondack Lodge*

Lunch-counter-lounge 43 *Champlain*

Baggage mail 56 *Town of Stillwater*

Coach 202 *Lake Placid*

Coach 204 *Lake George*

Coach 205 *Fort Ticonderoga*

Coach 206 *Essex County*

Coach 229 *C. J. Brierley*

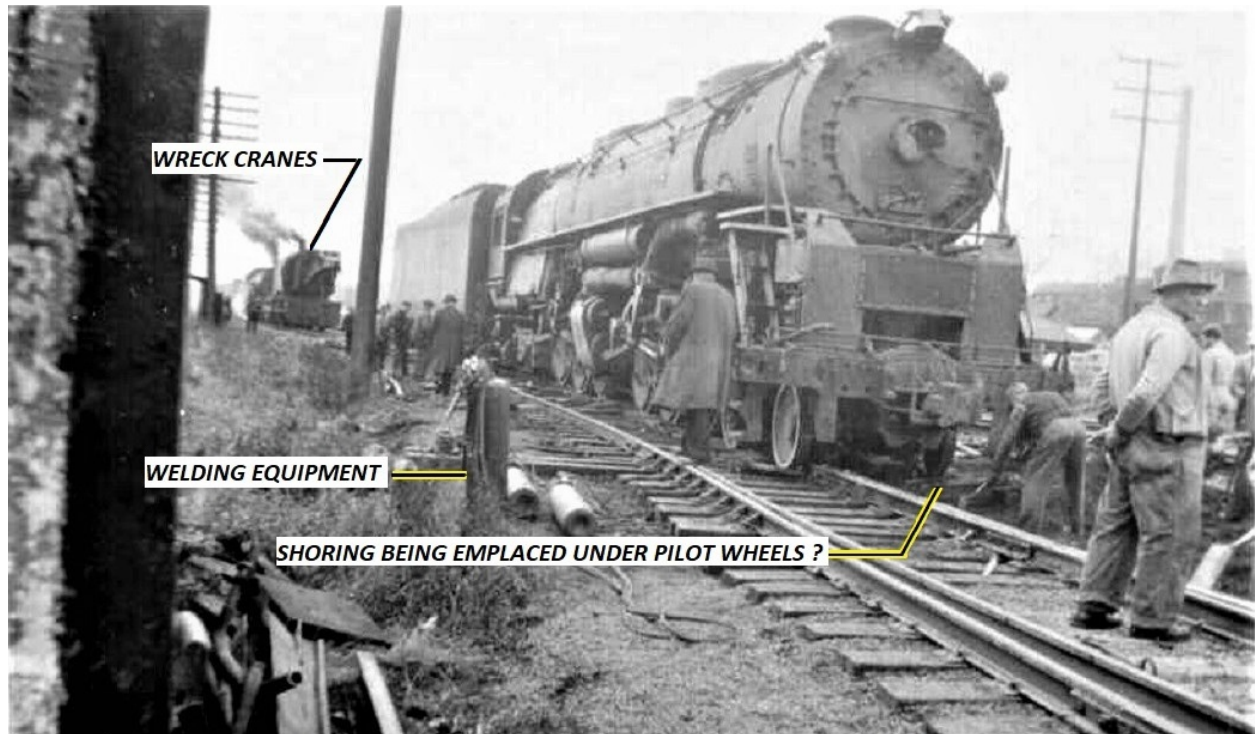
* Skyline buffet-lounge domes 35 and 36 were leased from Canadian Pacific, but painted in D&H colors and assigned these new numbers and names while briefly in D&H/Amtrak *Adirondack* service.

40. "D&H Canal, December 5, 1828"; posted by D&H Canal Museum, High Falls, NY Facebook page, December 5, 2019:



“It was on this date, December 5, in 1828, that the first boat load of D&H Coal to travel the entire 108 mile length of the Canal arrived in Rondout. The Canal was finished and fully watered from Port Jervis to Rondout by the end of 1827 and they sent coal to Port Jervis via wagon and then up the Canal but this was the first time they sent their coal the entire length. Pictured here [in a photo taken c. 1860] is a boat being unloaded in Rondout.”

41. *D&H Challenger No. 1512*. Material from Stacy Gardner, October 16, 2019:



Pictured are railroad crews hard at work as they finish up on preparations to rerail D&H Challenger No.1512. On track just behind the locomotive, one can see the two wreck cranes brought in to rerail No.1512 and we can only assume that one of the two wreck cranes is No.30022 the 250 ton Industrial Brownhoist crane built in 1945 specifically for such heavy lift occasions.

**D&H RAILROAD
LOCATION - UNK
CHALLENGER No.1512
DATE - UNK**

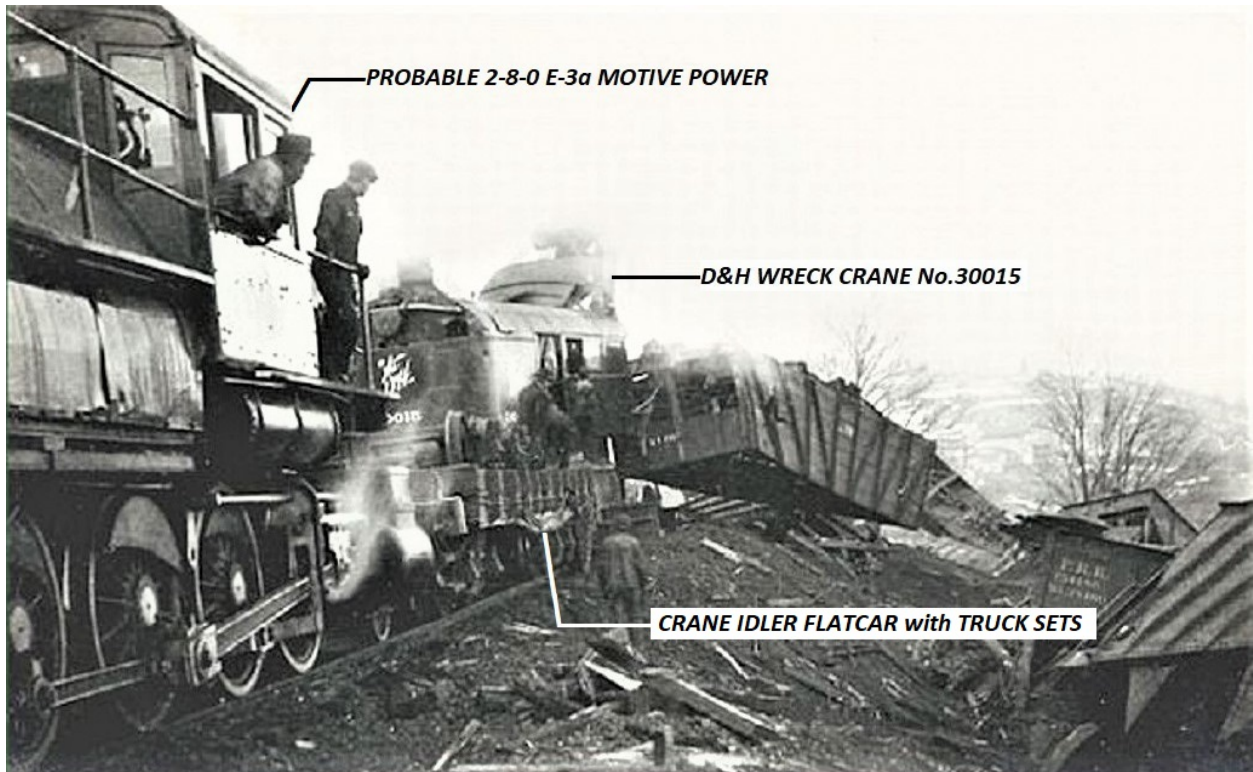
42. *D&H Engine No. 179*: Photo and data made available by Stacy Gardner:



Pictured is a D&H C-1m class 2-6-0 steam locomotive No.179 built between 1889 - 1891 (Manufacturer is unknown at this time).

**D&H RAILROAD
NINEVEH, N.Y.
ENGINE No.179**

43. *D&H Wreck Crane No. 30015*: material from Stacy Gardner:



D&H WRECK CRANE No.30015 (BUILT 1907) has been positioned to start the time consuming process of clearing a train wreck in the vicinity of Starrucca. The crane is lifting a derailed hopper car using it's auxillary hoist.

**D&H RAILROAD
STARRUCCA, PA.
"DERAIL CLEAN UP"
1911**

For more on this accident, see SRP's D&H Volume XI, pp. 126-127.

44. Bartlett stereocard of coal miner, offered for sale on Facebook, December 9, 2019:



Shamokin Coal Miner c. 1870. Stereograph by George O. Bartlett; posted on Facebook on 12-09-2019.

George O. Bartlett and William French were in partnership circa 1867-1869. The Bartlett and French stereographs depict Philadelphia streetscapes (including Chestnut Street), public buildings (including the State House, Post Office, and Custom House), cultural institutions (including the Academy of Natural Sciences and Horticultural Hall on Broad Street), and the Fairmount Waterworks. Many of their views are included in the series titled “Gems of Penn’a scenery, Philadelphia and vicinity.”

45. Three photos of “Little Starrucca” and one of the Thompson station, dated 1982, posted on Facebook on 12-10-2019 by Anthony Stillittano in the Delaware and Hudson group:



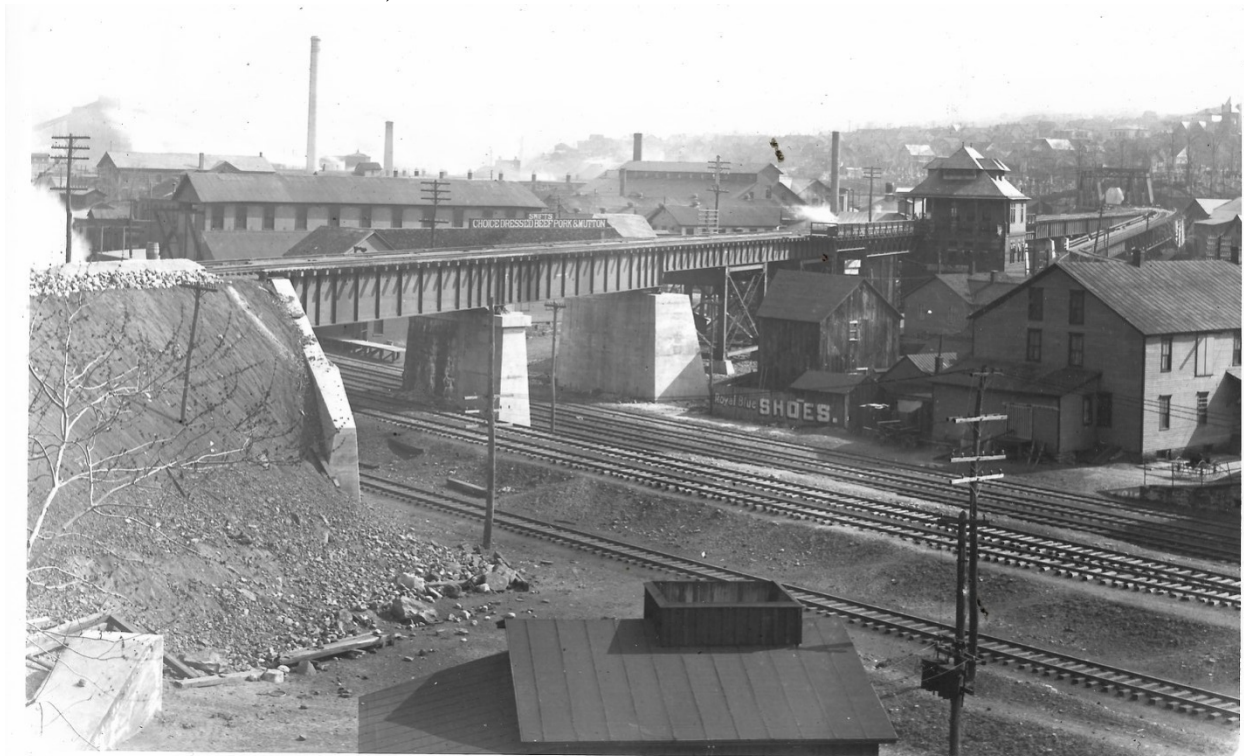
Comment by SRP to Anthony Stillittano's post: "Little Starrucca Viaduct" just north of Thompson. Bryce R. Blair was the chief engineer who built the Jefferson Branch in the period May 1869--October 10, 1870. Just five days after the Jefferson Branch opened, the D&H advertised (on October 15) for contractors to build the 23.3 mile long L&S from Jefferson Junction to Nineveh, which was formally opened on January 1, 1872."

The Erie Railroad identified this bridge as "Trestle No. 2 $\frac{3}{4}$ Jefferson Branch." On D&H valuation maps, this bridge is identified as "Bridge No. 11.65" (11.65 is the mileage from this

site to Jefferson Junction). This trestle was 480 feet long and about 86 feet above the stream under the bridge. The original trestle on this site was constructed entirely of wood.

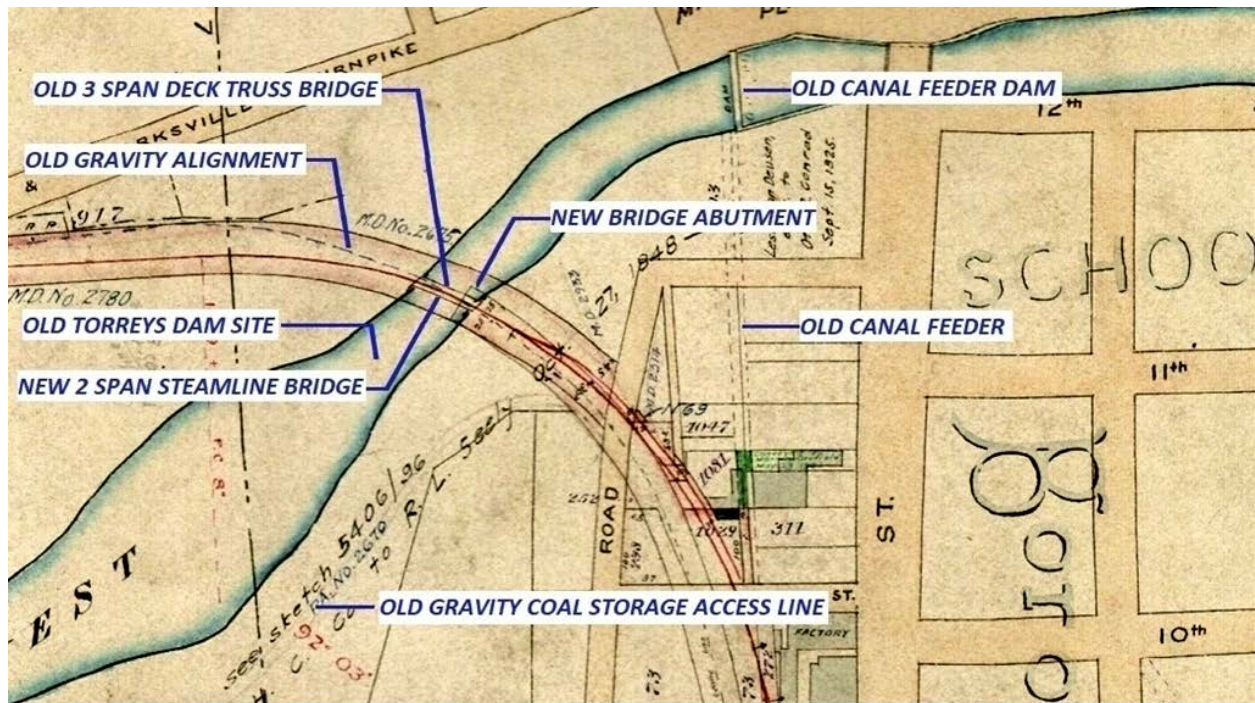
Comment posted on Facebook on December 10 by SRP: "Silas Robert Powell This trestle is referred to by many people as "Little Starrucca Viaduct". It was just a short distance north of Thompson and 11.65 miles south of Jefferson Junction (which is why this trestle is referred to on D&H valuation maps as "Bridge No. 11.65. (The Erie Railroad identified the bridge as "Trestle No. 2 3/4 Jefferson Branch.). The trestle, over Buck Creek/Falls, was 480 feet long and about 86 feet above the stream under the bridge. The original trestle on this site was constructed entirely of wood. For the record: Bryce R. Blair was the chief engineer who built the Jefferson Branch in the period May 1869--October 10, 1870. Just five days after the Jefferson Branch opened, the D&H advertised (on October 15) for contractors to build the 23.3 mile long L&S from Jefferson Junction to Nineveh, which was formally opened on January 1, 1872.

46. *O&W Trestle and Passenger Station, Dundaff Street, Carbondale*; photo from Walter Kierzkowski on December 11, 2019 on Facebook.



NYO&W Dundaff Street Trestle and Passenger Station, Carbondale, PA

47. Honesdale Bridges; photo of map with labels, from Stacy Gardner, 12-20-2019:



Map shows the old gravity railroad loaded track alignment that had a trestled deck truss bridge crossing and the new steamline track crossing over the Lackawaxen River in Honesdale. The river channel at the bridge crossing site has been reduced over it's look in 1895 with the removal of Torreys Dam. That dam was used to supply water to power both the old saw and textile mills which have since been removed.

**D&H CANAL CO. RR
HONESDALE, PA.
MAP DATA: 1901**

48. D&H RS3m and Four GPs Lead CX-1 North Past the Stillwater Dam, North of Forest City, Pa. Photo by Mike Bischak. A black and white print of this color photo (taken August 12, 1977) is given in the January 2020 issue of the *BLHS Bulletin*, p. 43; color version here courtesy of Mike Bischak on 12-21-2019:



Mike Bischak photo
Stillwater Dam
Forest City, Pa.
Aug. 12, 1977

49. Green Ridge Yard, two photos by Mike Bischak:



“D&H 451 and Green Ridge Roundhouse, September 12, 1981”



“Delaware-Lackawanna Von Storch Diesel Shop, under Construction, Green Ridge Yard, December 7, 2019”; photo by Mike Bischak.

50. “Lackawanna Valley Santa Train (BLW 26), December 7, 2019, at Jessup, PA,” photo by Mike Bischak:



51. Von Storch Diesel Shop, Scranton, PA:

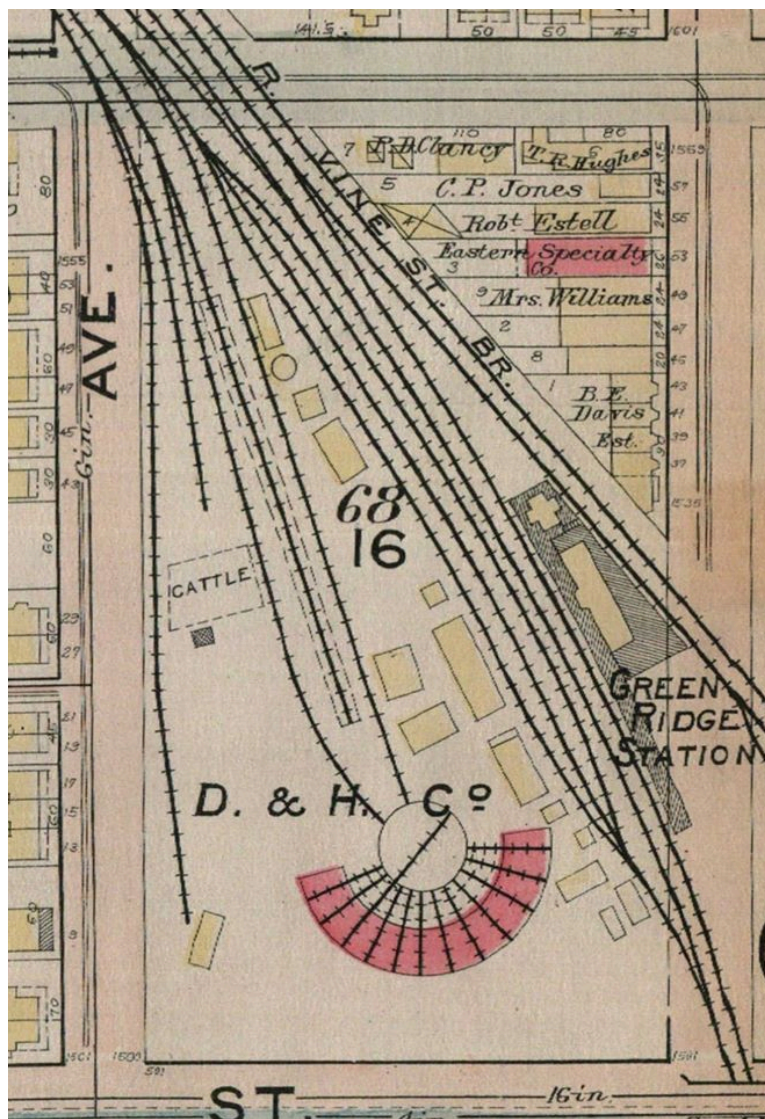
Photos of the construction of the Delaware-Lackawanna Von Storch Diesel Shop in Scranton were posted on Facebook regularly in the fall and early winter of 2029. At one point, a Facebook reader asked why the new diesel shop was called the “Von Storch”. SRP replied that the von Storch family was a very important family in anthracite mining in Providence, and added:

“The founder of the von Storch family in America was Heinrich Ludwig Christopher von Storch, who acquired 300 acres of land in Providence. In August 1860, mining commenced at the von Storch shaft (shown here) and at Richmond and Co.’s No. 3 Shaft in Providence. The coal mined at those two shafts was shipped North from those shafts, over D&H Gravity-gauge tracks, in D&H Gravity-gauge coal cars, pulled by Gravity-gauge steam locomotives, to the foot of Plane No. 23 in Olyphant, and from there it was shipped through the D&H “mountain” Gravity system to Honesdale.”



On December 20, SRP posted the following on Facebook:

“As we rejoice at the success of the Delaware-Lackawanna Railroad and watch, with great interest, the construction of the Delaware-Lackawanna Von Storch Diesel Shop in Green Ridge, may we long remember the 12-stall roundhouse, with its 65-foot long iron turntable, that the D&H erected at Green Ridge in 1867. Two of those stalls served as the D&H locomotive repair shops until 1876, when a locomotive shop was built near the upper roundhouse in the Carbondale yard. As can be seen from the map shown here, there was a corral for the receipt and shipment of cattle at Green Ridge as late as 1918 (and possibly after that time). Street names: The avenue to the left of the map detail shown here is Von Storch Avenue; to the right is Dickson Avenue; at the top is Green Ridge Street; at the bottom is Marion Street.”

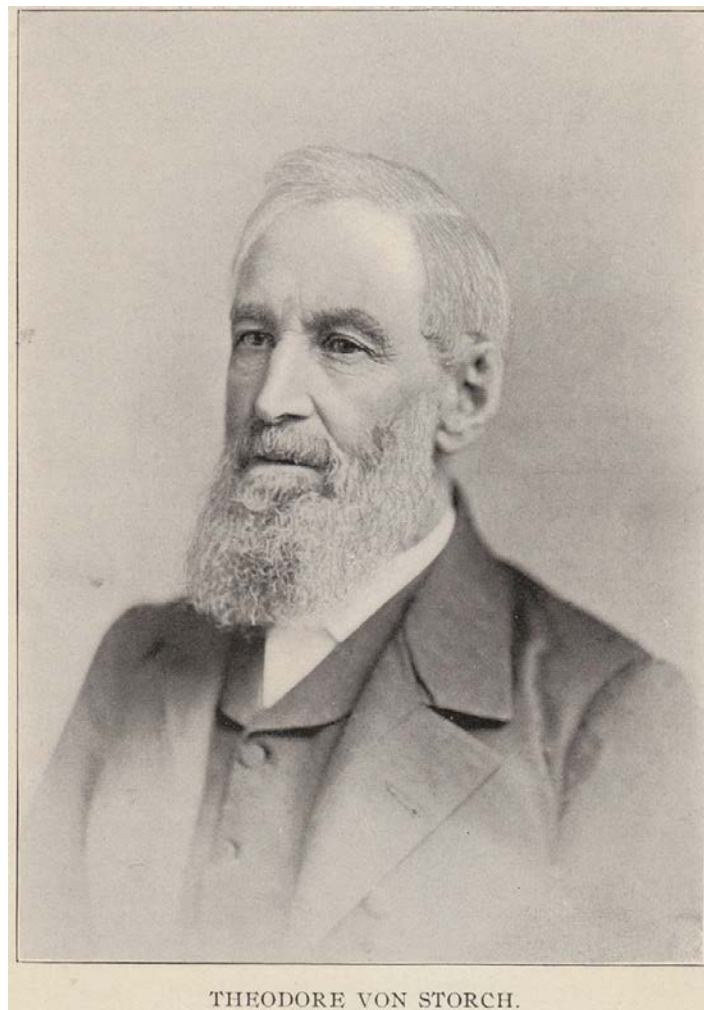


Paul W. Hendricks posted: Theodore and Ferdinand von Storch are buried behind One Stop Auto on N. Main Avenue. They are the namesakes for Theodore Street and Ferdinand Street near there.

SRP reply: Very interesting. Thank you Paul for enriching the historical record. Very soon, I will drive to that area and, if possible, photograph their tombstones.

From Paul W. Hendricks I have learned that the von Storch mansion was located at the corner of Oak Street and North Main Avenue (just a short distance from where Ferdinand and Theodore von Storch are interred).

SRP: Ferdinand von Storch and Theodore von Storch were the two oldest sons of Heinrich Ludwig Christopher von Storch. Shown here is a portrait engraving of Theodore von Storch.



THEODORE VON STORCH.

December 22, 2019: SRP posted on Facebook

Delaware-Lackawanna Von Storch Diesel Shop: In an earlier post, Paul W. Hendricks reported that Theodore von Storch and Ferdinand von Storch (after whom Theodore Street and Ferdinand Street in Scranton are named) are buried in a cemetery behind One Stop Auto on North Main Avenue. We visited that cemetery today and took the photos shown here of the tombstones that mark the graves of Theodore and Ferdinand von Storch--and possibly other members of their families.

Theodore von Storch was born May 19, 1812 and died May 30, 1886. He served as Justice of the Peace and Burgess of Providence. He married Josephine D. Barney and they had 2 children.

Ferdinand von Storch was born December 4, 1810 and died November 21, 1868. He organized the Von Storch Coal Company and sank the shaft that was later owned by the D&H. He married Caroline Slocum, and they had 9 sons and three daughters.

Many members of the von Storch family are interred in the two Von Storch mausoleums in Dunmore Cemetery.

Much additional information on the von Storch family, breaker, and coal enterprises is given in Powell's D&H Volume XVIII (Breakers), pp. 427-446.

Here are three photographs by the author of the tombstones of Theodore and Ferdinand von Storch, behind One Stop Auto on North Main Avenue, Scranton:







52. On December 22, 2019, Anthony Stillittano posted on Facebook the photo given below on the left, and identified it as “Little Starrucca”. The bridge in question is not “Little Starrucca”. It’s the Harpursville trestle.



At the left is the photo posted by Stillittano, at the right is the Harpursville trestle.

Newspaper account of accident on Little Starrucca, May 9, 1879 (see SRP’s D&H Volume XI, pp. 177-178):

“Fearful Accident on the Branch. / A shocking accident occurred on the Jefferson Branch, about twenty miles North of this city, on last Friday night, at about half past eleven o’clock, resulting in the death of Michael Murphy, of Lanesboro, and very serious injuries to Conductor S. T. Palmer, and George M. Stewart. / Conductor Palmer left Susquehanna for Carbondale at 9 P. M. with a train of upwards of 120 empty coal cars, with an engine at both ends, being what is called ‘a double header.’ They proceeded without accident until they arrived near Thompson station. There the engine acting as pusher seemed to crowd upon the train, and the third car in front of the caboose is supposed to have then mounted the rail. But it kept the track, until they arrived at the high trestling East of Thompson station, when it broke loose from the train, and fell from the trestling, taking with also two other coal cars, and the caboose, in which were Conductor Palmer and flagman Stewart, and fireman Murphy. The distance to the ground is there from forty to forty-five feet. The caboose turned over, and containing fire, and lamps, was immediately wrapped in flames. A fiery death seemed inevitable, but they all escaped alive, from the terrible danger. / Murphy was taken back to his home in Lanesboro, and Messrs. Palmer and Stewart brought to their homes in this city. / Mr. Palmer’s injuries are very severe burns on his left arm and hand, chest, shoulders, and face, with bruises and a general shock of the system occasioned by the fall of forty-five feet. / Mr. Stewart had the left hip dislocated, and the cap of the joint fractured, his right arm broken, but much less severely than Mr. Palmer. / Both are

made as comfortable as possible after the severe injuries they have received, and we are glad to state that there is a good prospect of their recovery.” (*Carbondale Advance*, May 17, 1879, p.3)
SRP note: In 1879, the trestle was constructed entirely of wood.

Posted on Facebook on 12-23-2019 by SRP:

At 9 P.M., on Friday, May 9, 1879, Conductor S. T. Palmer, with a train of upwards of 120 empty coal cars, and with an engine at both ends of the train, departed from Lanesboro for Carbondale. As the train approached the trestle east of Thompson station, at about 11:30 P.M., the pusher engine began to crowd upon the train, and the third car in front of the caboose then mounted the rail, but it kept the track until the train arrived at the trestle, when it broke loose from the train and fell from the trestle, taking with it two other coal cars and the caboose, in which were Conductor Palmer, Flagman George M. Stewart, and Fireman Michael Murphy. The distance to the ground is there from forty to forty-five feet. The caboose turned over, and containing fire, and lamps, was immediately wrapped in flames. Murphy (from Lanesboro) was killed; Palmer and Stewart (both from Carbondale) were seriously injured.

53. Facebook announcement, December 23, 2019, by David J. Monte Verde: “Von Storch Shops will be the name of the new Delaware-Lackawanna diesel shops in the former D&H Green Ridge Yard.”



“David J. Monte Verde: As a System Shop it will be named GVT RAIL's Von Storch Shops, because it's on Von Storch Avenue, right across from the D&H Coal Company Breaker of the same name” (Facebook, 12-23-19)



E-mail to Norm Barrett, December 23, 2019:

December 23, 2019

Norm:

The D&H name:

On Facebook today, David J. Monte Verde said: "...as a System Shop it [the new diesel shop] will be GVT RAIL's Von Storch Shops, because it's on Von Storch Ave. right across from the D&H Coal Company [emphasis added by SRP] Breaker of the same name."

In his statement, Mr. Monte Verde gave the D&H company name incorrectly. From its incorporation on April 23, 1823 up to February 23, 1899 the official corporate name of the company was

The President, Managers and Company of the Delaware and Hudson Canal Company

On that date, February 23, 1899, formal sanction was given by the D&H managers to abandon the D&H Canal and to change the name of the company to

The Delaware and Hudson Company

Many people believe that D&HCCo meant "Delaware and Hudson Coal [emphasis added] Company". It did not. D&HCCo. meant "Delaware and Hudson Canal [emphasis added] Company".

The D&H was never known as "The Delaware and Hudson Coal Company".

My guess is that you probably know David J. Monte Verde, and that you have an email address for him.

To avoid a public discussion of the official corporate name of the D&H (a discussion which should not take place on the Internet, but rather behind closed doors or in a confidential e-mail), please forward this message to Mr. Monte Verde.

Your help will be much appreciated.

Sincerely,

Robert

Posted 12-23-2019 on Facebook:



“Our Christmas Present to The ALCO DOC, our employees and to all our faithful fans !
MERRY CHRISTMAS.” Photo by Don Liotta.

Two views of the Farview section of the 1901 map of the Honesdale Branch by W. E. Anderson:

151
Pa. No 131 Lucy Rogers et al. to D & H. C. Co. May 31 1857
184 Mary Rogers et al. to D & H. C. Co. Apr. 7 1859

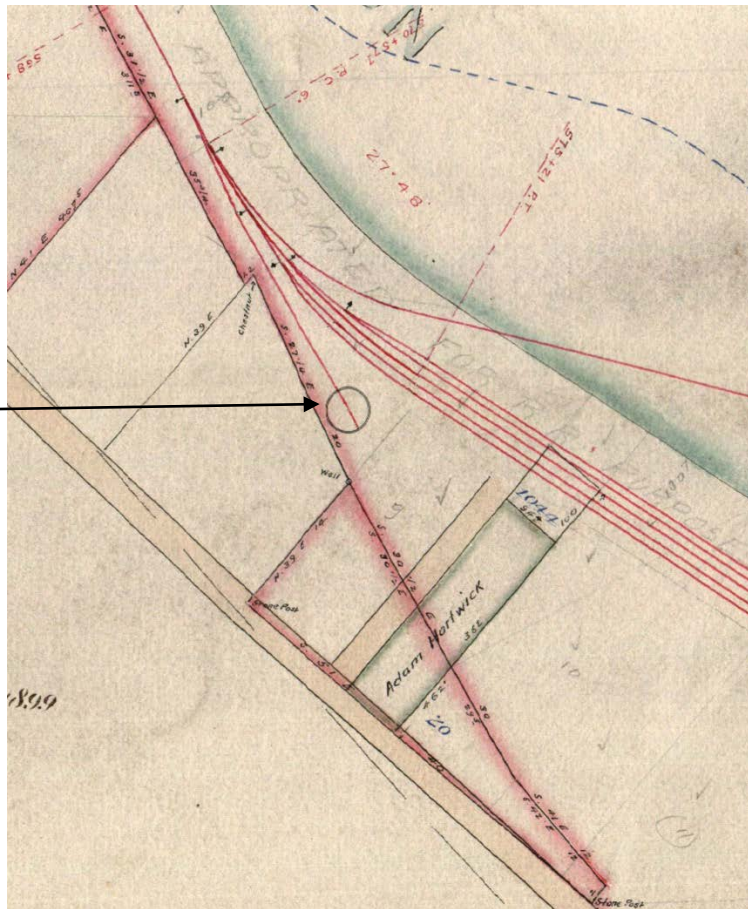
Center Line
Perry Avenue St.
K. M. Wood
FARVIEW STATION
M.D. No 266
M.D. No 266
1066
MILFORD
OWEGO
TURNPIKE
Pa. No. 1658
Pa. No. 1658 Commonwealth of Pa.

This the Grand Farview station

The era passenger station with concrete and steel roof built in 1912 on December 15. It was the D&H stations at the time to welcome the capital patients.

Honesdale Branch steam-era passenger station (one story tall with concrete and brick walls and a gable roof) built in 1912 on this site and opened on December 15. It is said to be a copy of the D&H stations at Bainbridge and Sidney, New York. The station opened just in time to welcome the first Farview State Hospital patients.

The steam-era
D&H turntable
at Farview



The continuation
of these five tracks
is shown on the
map detail given
on the preceding
page.



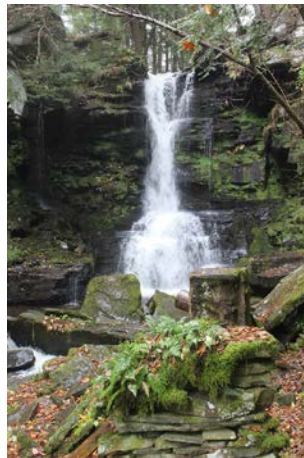
Turntable at Farview, April 23, 1917. Photo courtesy Bridge Line Historical Society

55. Little Starrucca, Facebook, 12-28-2019; post by Jon C. Burdick, Delaware and Hudson group:



“Little Starrucca Viaduct early 1950s, not sure which train line this one is, D&H bought this line from the Erie I believe around 1952, Now a rail trail with a nice switchback down and back up the other side. Bucks Falls just below was once a very popular stop and still is. I believe that apple tree is still there.”

Henry Sommers The Erie owned the line, the one time Jefferson line and later the Jefferson Division until 1955 granting trackage rights to the D&H. Erie then sold it to the D&H in 1955 but kept rights to local traffic. Thus the Erie had a daily local train from the Scranton area which had rights to Susquehanna but actually never operated beyond Jefferson Jct. The Erie also maintained agents at Starrucca and Thompson.



“A view of Buck Falls recently, not very far from where the bridge was, a nice hike, about a mile from the old Starrucca D&H train station site. See the metal pipe in the photo, that has been there for years, a water diversion to the top where remains of a grist mill are still evident.”

56. More Little Starrucca, Facebook, 12-29-2019: David T. Mainey: "J-95, 1518, southbound crossing *Little Starrucca* Bridge on 4/20/1952":



Shown on Facebook with the photo given above is the photo given below, by David T. Mainey, and caption:



On April 20, 1952, Don Furler, George Krumm, Dick Horstmann, Bob Collins (his chevy) and I got stuck in the mud on a road near Ararat, PA. chasing a northbound D&H train. Taking this shot was casual, but I am so glad that I did. We managed to extricate the car and had a successful photo day. The photo of J-95, 1518, southbound, crossing "Little Starrucca" is one of the "fish" that we caught."

Bob Collins: the legendary D&H photographer; Dick Horstmann--is he related to the Dick Horstmann who was District 2 Director of the American Poultry Association for many years?

57. Starrucca Viaduct construction:

The *Montrose Independent* published, during the commemoration of the Starrucca Viaduct in 1931, the article given below about the bridge by the daughter of one of the builders of the bridge:

“There was great commotion among the people when the first report came that there was to be a railroad built from New York to Lake Erie, there to connect with boats for the far west. It was in the year 1845. It was some time before the surveyors got up to the Gulf Summit [,] Cascade and to Lanesboro...My father and I visited the scenes and work of the railroad building very often, which was very interesting and exciting to us all

The stone was cut and numbered and loaded on the stone cars drawn by horses and mules over the piers and were unloaded by derricks down on the piers. They drilled two holes in the large stone, about two feet apart. They had a short chain with ring in center and short plugs on each end. They would stick these plugs in the holes with the derrick, hook in the ring and let them down on the piers where they were fitted to go. The stone was marked with black paint. The masons on the piers knew where to lay [it].

When the piers were up to the track they built another section of false-work and so continued to raise the track over the piers until the work was done. When the piers were high enough for the arches, they left projecting a row of stone to set the wood arches to [,] to lay the stone on. They were now one hundred feet from the ground and every pier was fastened just the same and stands in a perfect row, just the same as was built

When the bridge was completed it was a wonderful view to behold, to see that bridge with the false-work of timbers filling the space between the piers from the ground to the arches... The contract [to remove the falsework] was let to a man by the name of Purdy. He built a boarding house, or shanty like, very long on the ground, where the school house now stands, boarding many of his men and paid them \$1.00 a day... He soon had a lot of men who were not afraid to work on that dangerous job. A number... went from Jackson. My father was one...” —Hosea M. Benson, November 24, 1931”

58. Painting of Little Starrucca by Robert Frascella; posted on Facebook 01-01-2020:



59. Three Belden Hill Tunnel photos posted on Facebook by SRP: first one on January 1, 2020; second and third ones on January 2, 2020; one more--of the South Portal--on March 24:



Belden Hill Tunnel: Shown here is a photograph of the north portal of the Belden Hill tunnel that was taken on April 26, 1918. Note the watchman's shanty (complete with heating system) on the right, and the wooden doors on the entrance to the tunnel. The original of this photograph is in the archives of the Bridge Line Historical Society.

Photo well received. Here are some of the comments:

Steven Faiello: Silly question, but what's the purpose of the doors?

Joe O'Mara: Keep the ice and snow out.

Rusty Fender: ... standard issue until 1923 on most to also keep out animals.

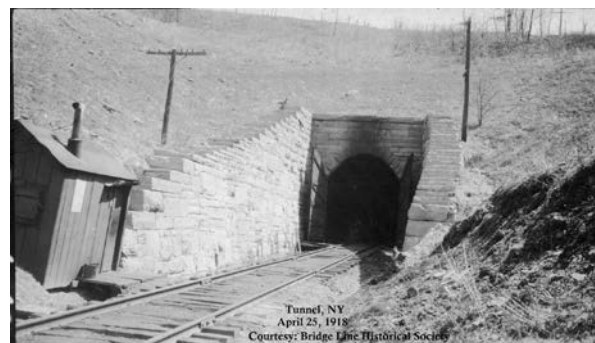
Greg Flynn: The old tunnel was pretty legendary for its ability to create some pretty large icicles, which were a hazard to crews and equipment. Keeping the doors shut in cold weather

kept the inside temp a little warmer, and slowed down the growth of the icicles. The D&H had a “tunnel scraper” positioned on a siding at the south portal for years. It was an old gondola car with a big concrete chunk for ballast. Oneonta welded up a bunch of beams in the general size and shape of the tunnel bore in the center of the car. When the icicles would get big enough to cause a problem, a crew with an engine would be dispatched from Binghamton to couple to the car, pull it out on the main and shove it slowly through the tunnel. The steel beams would knock the icicles down to be trapped on the floor of the gondola. The car would then be returned to the siding and the icicles left inside to melt away in the spring.

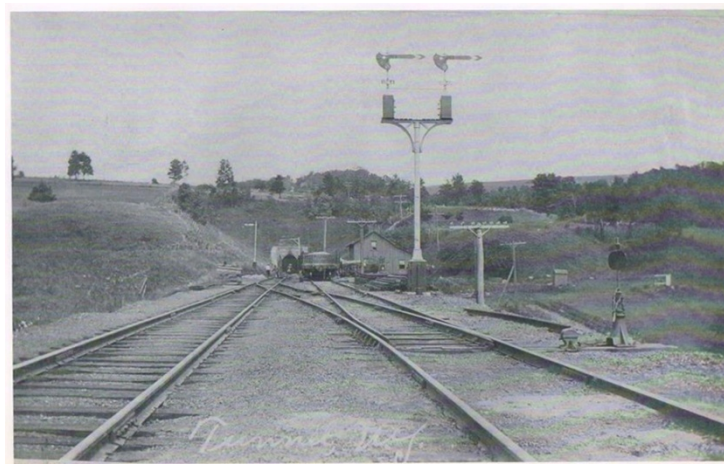
Chris Murphy: Neither portal is very far from a road.

Joe O'Mara: The North Portal sits directly under Walling Rd.

Two more Belden Hill tunnel photos (both BLHS photos), both of south portal, both posted on Facebook by SRP on January 2, 2020:



January 2: Mark Roach : OLD picture of the south portal when semaphores controlled the routing



One more Belden Hill photo, posted on Facebook on March 24, 2020: this one of the south portal:



60. May 1900 D&H menu, from Stacy Gardner on 01-01-2020; posted on Facebook on 01-03-2020:



SRP's post: "D&H Dining Car Service, 1900: Bon appetit."

Comments:

Terry Capozza: Almost seems expensive for 1900.

Silas Robert Powell: Good point. The average annual salary in 1900 was \$450; teachers made about \$600 a year. Five pounds of sugar, 31 cents; a dozen eggs, 21 cents; two quarts of milk, 14 cents. So dinner for \$1 in the dining car on a D&H train in May 1900 was an expensive luxury.

Lance Erickon: Most coach passengers never ate in diners. It was first class that did. I only ate in a D&H run diner once. I don't remember it being expensive as the NYC nor Pennsy.

Aaron Keller: The inflation calculators suggest \$1.00 in 1900 is about \$30.00 today.

Paul Brew: Prime Rib. medium rare please.

George Hofmann: Looked up Bent's Crackers. Still in business since 1801. Main supplier of "hard tack" during the civil as well as now during the summer months for civil war reenactments. Very interesting information can be found regarding the history of this company.

Suzanne Kilcullen: Prime Rib for me too, well done, burn it if you must!

61. D&H nationalization article by SRP and Jim Bachorz:



*Lincoln Avenue Waiting Room, Honesdale Branch of the D&H. Photo taken May 4, 1917.
by the BLHS Archiving Committee*

The U.S. entry into World War I in April 1917 coincided with a downturn in the fortunes of the nation's railroads: rising taxes and operations costs, combined with prices that were fixed by law, had pushed many railroad companies into receivership as early as late 1915. A year later, in a last-minute bill passed through Congress, President Wilson forced railroad managements to accept union demands for an eight-hour work day. Still, many skilled workers were leaving the cash-poor railroads to work in the booming armaments industry or to enlist in the war effort.

By the end of 1917, it seemed to some that the existing railroad system was not up to the task of supporting the war effort and President Wilson decided to nationalize the America railroads. Two days after his announcement, the United States Railroad Administration (USRA) seized control of a large majority of the country's railroads under the Federal Possession and Control Act.

William McAdoo, Wilson's Secretary of the Treasury, was appointed Director General of

Railroads. The railroads were subsequently divided into three divisions: East, West and South. Passenger services were streamlined, eliminating a significant amount of “inessential” travel. Over 100,000 new railroad cars and 1,930 steam engines were ordered, designed to the latest standards, at a total cost of \$380 million.

“With nationalization”, **Jim Bachorz** noted, “every railroad took photos of its property, for this was the World War I era, and the government took over the railroads to ‘ensure their shipments got through’. What resulted was that the government darn near wiped out the rail system due to little maintenance. During World War II, the government remembered what happened the first time, and wisely let the railroads run the system; that worked well”.

In March 1918, the Railroad Control Act was passed into law. It stated that within 21 months of a peace treaty, the railroads would be returned by the government to their owners, and that the latter would be compensated for the usage of their property. Consequently, the USRA was disbanded two years later, in March 1920, and the railroads became private property once again.

At that time, the D&H had several thousand photographs of its real estate, all taken in the period 1915-1919. As such, the D&H had a photographic record of its property and its condition at the time of nationalization, which meant that the D&H had conclusive evidence, after the war, to support claims if its property was damaged during the war years.

One set of the originals of those photographs, an astonishing collection of rare photographs of D&H real estate, is in the holdings of the Bridge Line Historical Society’s Archives. **Mike Bischak** of Simpson, Pa., has volunteered to scan all of those photographs, all contact prints, each 4.25” x 2.5”, for the BLHS. It is a very large job, with many hours of painstaking work.

As his high resolution (2400 dpi) archival scanning project was proceeding, Mike, with the authorization of the BLHS, gave **Dr. S. Robert Powell** of the Carbondale Historical Society a sneak preview of many of the Pennsylvania Division photos in the collection. On seeing these photos, Powell remarked, “These photographs are wonderful, unbelievable, and thrilling. Seeing these photos is like opening a new window, after all these years, on the D&H. What is especially wonderful about a great many of these photographs is that we now have photographs of structures of which, until now, no photographs were known to exist, e.g., the Farview turntable, the Lincoln Avenue Waiting Room, and more”.

In speaking of these D&H record photographs, Jim, “I find interesting not only the facilities photographed, but also some of the people included in the photos. Accidental or otherwise, their inclusion can be interesting. A crossing gate guard warily eyeing the photographer, a station agent posing for the camera, some neighborhood kids on the station benches, a mine cave-in guard looking happy – or dour – and more. All can be enlightening for D&H enthusiasts and historians, far and near”.

The fact that these remarkable photographs of the D&H should surface a hundred years after they were taken is newsworthy, but, as Jim observed, “the story behind the photos isn’t new; I think every railroad in the country took such photos, and it was well known. I imagine there are sets of photos like the D&H ones stashed in archives around the country. At least, I hope there are.”

62. “The D&H Flat-Land Gravity Railroad” by S. Robert Powell (*BLHS Bulletin*, February 2020, pp. 12-13):

The D&H Flat-Land Gravity Railroad

By S. Robert Powell, Ph. D.

There were two D&H Gravity Railroads (1) the well known “mountain” Gravity between Carbondale and Honesdale (1829), with extensions down the Lackawanna Valley to Archbald (1845) and to Olyphant / Valley Junction (1859), and (2) the “flat-land” Gravity, on the valley floor, south of the foot of Plane No. 23 in Olyphant (1860-1886).

Passenger service on the flat-land Gravity: When we looked at the birth of the D&H as a steam locomotive railroad in this column in October 2019, we noted that the debut of steam locomotive power on the D&H took place in February 1860, when the *Major Sykes*, a Gravity-gauge steam locomotive, first pulled passenger coaches from the foot of Plane No. 23 in Olyphant to Providence. In 1863, thanks in a large measure to the enthusiastic promotion and support of D&H Railroad Superintendent, Charles Pemberton Wurts, dual-gauge tracks (Gravity-gauge, 51 inches, and standard-gauge, 56 ½ inches) were laid between Providence and Vine Street, 2.27 miles south of Providence. As such, D&H passengers, from up the Lackawanna Valley, beginning in 1863, could then access, via flat-land Gravity tracks, “the Scranton Railroad” (the DL&W). This line from the foot of Plane No. 23 to Vine Street served the D&H well as a passenger line from 1863 to the opening of the steam locomotive line, the Valley Road, between Carbondale and Scranton on July 4, 1871.

Freight service on the flat-land Gravity:

The first freight service on flat-land Gravity tracks took place in February 1860, when the Gravity tracks (in the dual-gauge standard/Gravity tracks from Valley Junction to Providence) were extended from Providence to the Von Storch breaker and to the Richmond No. 3 breaker in Providence. Gravity-gauge steam engines then pulled Gravity coal cars from the foot of Plane No. 23 to those two breakers, where they were filled and hauled back to the foot of Plane No. 23 for shipment, over the mountain Gravity, to Honesdale. As with the Gravity-gauge passenger coaches that were moved between the foot of Plane No. 23 and Providence, these coal cars (empty and loaded) were pulled by Gravity-gauge steam locomotives (*Major Sykes* and *C. P. Wurts*, among them).

In 1863, the dual-gauge D&H rail line was extended from Providence to Green Ridge and to Vine Street. In 1867, the 24.27 mile-long Union Railroad between Green Ridge and Union Junction (near Mill Creek / Hudson) was completed. (In that same year, a 12-stall roundhouse, with an iron turntable, was built at Green Ridge).

As soon as the line was completed between Green Ridge and Union Junction, the Union Coal Company leased the exclusive right to run passengers and merchandise traffic/freight between

Union Junction and Green Ridge for a period of 20 years, to the Central Railroad of New Jersey. At the same time, however, the D&H was authorized by the Union Coal Company to use the line to ship coal and, accordingly, made the line Gravity compatible.

The coal to be shipped north by the D&H over the tracks of the Union Railroad was in the Baltimore mines (acquired by the D&H on October 25, 1867) north of Wilkes-Barre. To access those mines, the D&H Gravity tracks to Union Junction were then extended by the D&H from Union Junction to the Baltimore mines over the tracks of the Lehigh Coal and Navigation Company--which meant that D&H Gravity coal cars, loaded and light, pulled by Gravity-gauge steam locomotives could now be moved, on flat-land D&H Gravity tracks, between the Baltimore mines north of Wilkes-Barre and the foot of Plane No. 23 in Olyphant.

In the period 1867-1871, the five Gravity-gauge steam locomotives (*Major Sykes, C. P. Wurts, Honesdale, Lackawanna, and I. N. Seymour*) were the motive power used. In the period 1871-1886, three standard-gauge D&H engines (*Mill Creek, E. A. Quintard, and J. J. Albright*) were the motive power that was used on the line, between Hudson and Olyphant, to move the Gravity coal cars.

Flat-land Gravity Railroad operations, then, both in the movement of passengers and coal, were a very important component of the D&H picture from 1860 to 1871, which was a period of astonishing growth for the Delaware and Hudson, both from the perspective of the number of passengers transported and in number of tons of coal sent to market annually. In 1860, we note, the D&H sent to market 499,568 tons of anthracite coal. In 1871, the D&H sent 2,011,383 tons of coal to market. That phenomenal growth in the number of tons shipped to market annually by the D&H would not have been possible without the flat-land Gravity system.

* * * * *

The two photographs given below were included in the article given above.



Plane No. 23, Also Known as Plane G, Olyphant. The breaker on the right is the Eddy Creek Breaker. Photograph by Thomas H. Johnson, Scranton, 1860.



Von Storch Breaker, Providence, PA. Photograph by Thomas H. Johnson, Scranton, PA, 1860.

63. *Ventilating Shaft, Belden Hill Tunnel*, photo taken April 25, 1918; posted on Facebook by SRP on January 4, 2020:



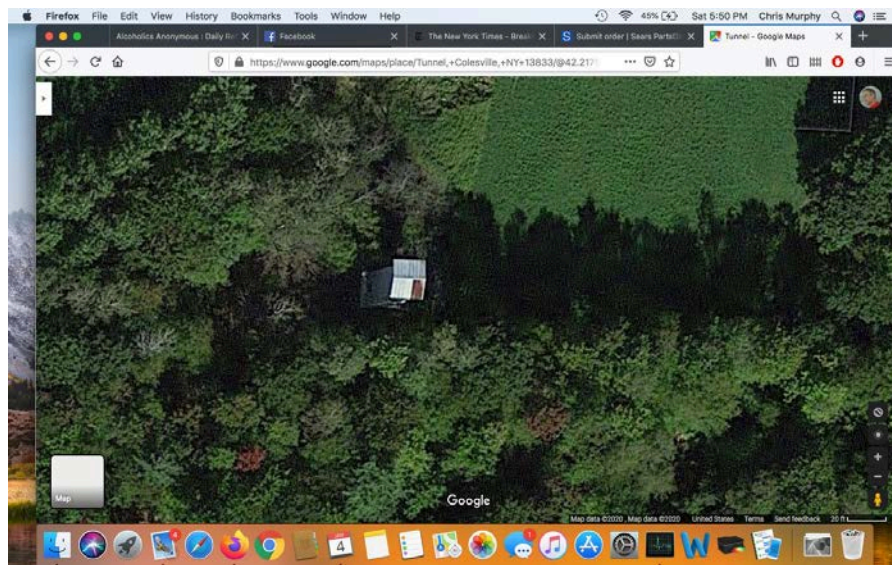
Here is the caption that SRP put on the photo when he posted it:

“Ventilating Shaft, Belden Hill tunnel, April 25, 1918. Original photograph in the archives of the Bridge Line Historical Society. This is one of the photographs that the D&H had taken of its real estate at the time of the nationalization of the railroads in America at the beginning of World War I.”

Comments on the photo:

Chris Murphy: That wasn't still around in '75, that's for sure- any air & exhaust only travelled the tunnel.

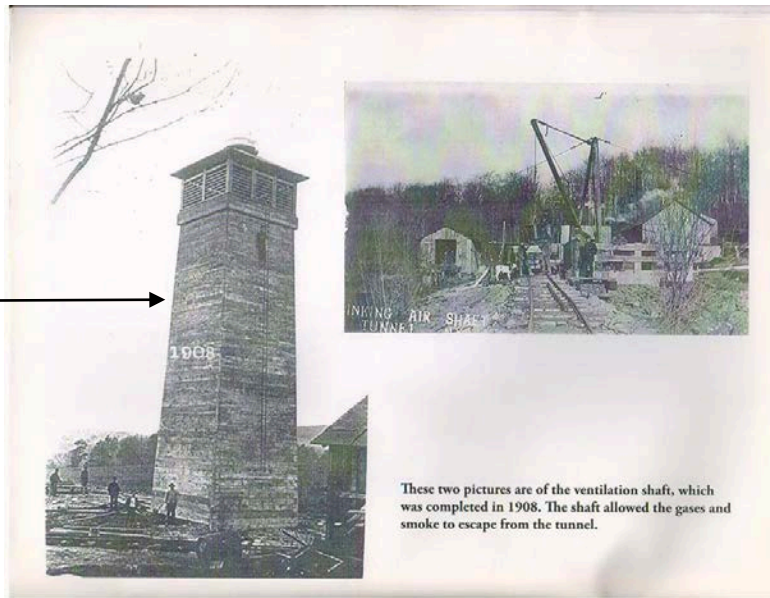
Chris Murphy: Still up there!



Michael Eggleston: Imagine the poor soul who had to climb the ladder to clean out the bird's nests! If it is still extant, it is on private property and is inaccessible today.

Michael Eggleston: Apparently, changes were made over the years to the ventilating shaft. It's my understanding a D&H trackworker was killed inside the tunnel in the 1960s when accumulated ice came down onto him while trying to clear a jam. Here are a number of photos:

Ventilating
shaft,
completed
in 1908



Michael Eggleston: By 1969, the louvered top was gone. Please also note the signal wires going over top of the hill, with a signal dept. relay box.



Michael Eggleston: By 1985, the trail alongside the signal poles lines was still accessible by 4 wheel drive, and a conical extension added to the top.



Michael Eggleston: Sometime after that, a metal peaked roof was placed over the ventilator stack to prevent rain and snow from going down the shaft, as can be seen in this Google Earth zoomed-in view.



Scott Whitney: I don't know what changes ensued when GRS had the tunnel honed out. However, many years prior my cronies and I walked the tunnel (quickly!) when we knew there were no moves planned. We never could spot where the ventilation shaft came down. Also, there was another shaft of sorts over the east portal as shown here. Anyone know what that was for?

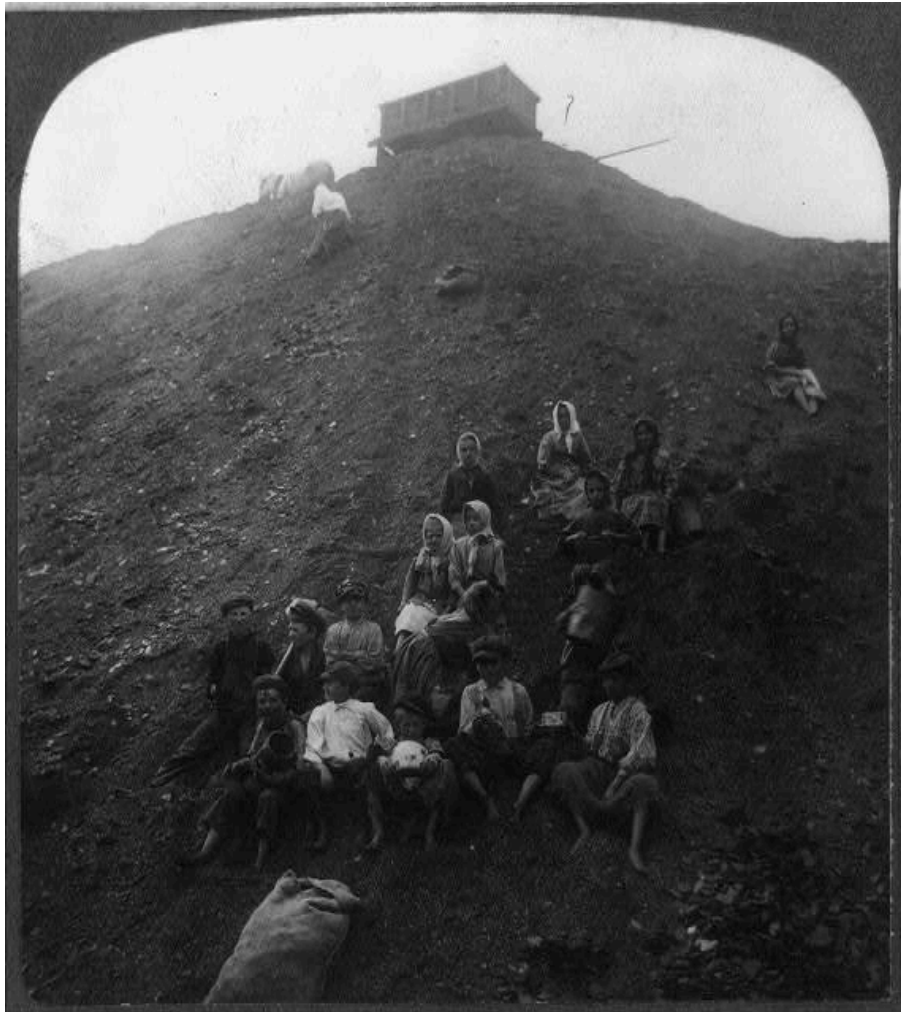


Purpose of
this shaft
over the east
portal?

Michael Eggleston: It's also puzzling as to why GRS did not install some high-capacity fans to lift exhaust out or blow through when a train passed through. Fans could have been installed overhead into the old shaft with ductwork down to the fans.

Rick Rutkowski: NYS paid for a lot of the tunnel rehab.

64. *Picking Coal on a Culm Bank*; downloaded January 4, 2020, from Facebook (where it was posted by Linda Baxter Serniak):



Picking Coal Eastern PA Early 20th Century, Library of Congress photo; downloaded from Facebook on January 4, 2020:

65. “The Legal Battle between the D&H and the Pennsylvania Coal Company” by S. Robert Powell (*BLHS Bulletin*, March 2020, pp. 16-17):

The Legal Battle between the D&H and the Pennsylvania Coal Company

By S. Robert Powell, Ph. D.

The anthracite coal mined by the Pennsylvania Coal Company in the Lackawanna and Wyoming Valleys of northeastern Pennsylvania was shipped to market over the PCC Gravity Railroad, between Port Griffith and Hawley. At Hawley, the coal was loaded into canal boats and shipped via the D&H Canal from Hawley to the Hudson River.

In order to maximize the amount of coal, both D&H and PCC, that could be shipped to the Hudson River via the D&H Canal, the D&H restructured its canal three times. With each revision the canal was made deeper and wider and capable of handling larger boats with increased tonnage of coal. (Following the third revision, 1848-1852, the canal was now 6 feet deep, with locks 90 feet long and 15 feet wide.)

In April 1857, the D&H, seeking to recover the additional tolls which it asserted the PCC owed the D&H due to the lowered costs resulting from the third enlargement, the D&H filed suit against the PCC. In court documents relating to this case, we read: “This action was commenced in April, 1857, to establish what has been the reduction in the cost of transportation, per ton of coal, on the plaintiffs’ [D&H] canal, between Hawley, the point where the defendants’ [PCC] coal enters the canal, and tidewater, produced by the enlargement of such canal, and by no other cause; and also to recover from the defendants, an ‘additional toll,’ a sum equal to one-half of such reduction upon the coal transported over such portion of the canal in the pleadings mentioned...”

On April 23, 1857, the New York Supreme Court, Ulster County, summoned The President, Managers and Company of the Delaware and Hudson Canal Company and The Pennsylvania Coal Company.

Pleadings and testimony were taken before J. H. Dubois and Henry Hogeboom, Referees. Schoonmaker & Hardenbergh (Edward H. Owen, William Curtis Noyes, and Elbridge T. Gerry, of New York; Amasa J. Parker and John H. Reynolds, of Albany; Jacob Hardenbergh of Kingston) were the attorneys for the plaintiffs (the D&H) and Wm. & B. Cutting (Charles F. Southmayd, John Ewen, Samuel J. Tilden*, and Lewis B. Woodruff, of New York; Charles P. Collier, of Hudson; and John K. Porter and Lyman Tremain, of Albany) were the attorneys for the defendants (the PCC).

Standard courtroom rules of examination were followed and objections were allowed, but since this was not a trial, the referees, who served not as judges, rather as referees, could not rule on

the objections, which were made for the record and accumulated for later decision. In the course of these hearings 200 witnesses were called.

The D&H began in December 1857 by introducing expert witnesses, such as James McEntee and Russel F. Lord, who established the central claim that a 125-ton boat on the enlarged canal could transport coal for about 40 cents a ton less than the 50-ton boats in use after the second enlargement.

The hearings continued for more than four years. The final testimony was heard on May 17, 1861. The actual judgment was not entirely satisfactory to either party. In a decision handed down in 1863, the D&H was awarded 5 cents a ton additional toll for coal transported since July 28, 1853. The D&H gained about \$350,000 including interest, but lost over \$700,000 it had sought to recover from the PCC. Neither side was satisfied and each appealed, extending the conflict more than a decade longer.

The proceedings of these hearings filled nearly five thousand pages, which were published in eight volumes, in New York City, by W. C. Bryant & Co., Printers, 41 Nassau St., corner Liberty Street.

Before the present digital age, a D&H or PCC historian who was interested in reading those eight volumes could only have done so through many weeks of in-person visits to libraries such as the New York Public Library. Those eight volumes have now been digitized and are accessible to all on-line. In the past several months, we have read all eight volumes of the pleadings and testimony in the D&H/PCC legal proceedings. Our colleague, Larry Rine, of West Lebanon, NH, is now reading those eight volumes and is presently working on an index to those proceedings.

Having read all eight of those volumes, which constitute an immense historical archive of never-before-published primary data about the Delaware and Hudson Canal and its operations, it is very clear that none of the many historians who have written on the Delaware and Hudson Canal over the years has read the complete transcript of the D&H/PCC legal proceedings, 1857-1861. That being the case, those among us who are interested in the history of the D&H Canal must now, in the years ahead, either incorporate into the existing published histories of the D&H Canal the immense body of never-before published data about the D&H Canal and its operations that is recorded in the D&H/PCC court proceedings, or write new books on the Delaware and Hudson Canal and its operations.

* Tilden was elected governor of New York in 1874 and was the Democratic candidate for U. S. president in 1876. He studied law at NYU and was admitted to the bar in 1841. He was an extremely successful lawyer. He died in 1884. In his will he left 3 million dollars toward the establishment a free public library in New York City. In 1895 this trust was joined with the Astor

and Lenox libraries to form the New York Public Library. The eight volumes of the D&H/PCC court dispute now in the New York Public Library were formerly in the Tilden Library.

* * * * *

The two photos shown below were part of the article given above.



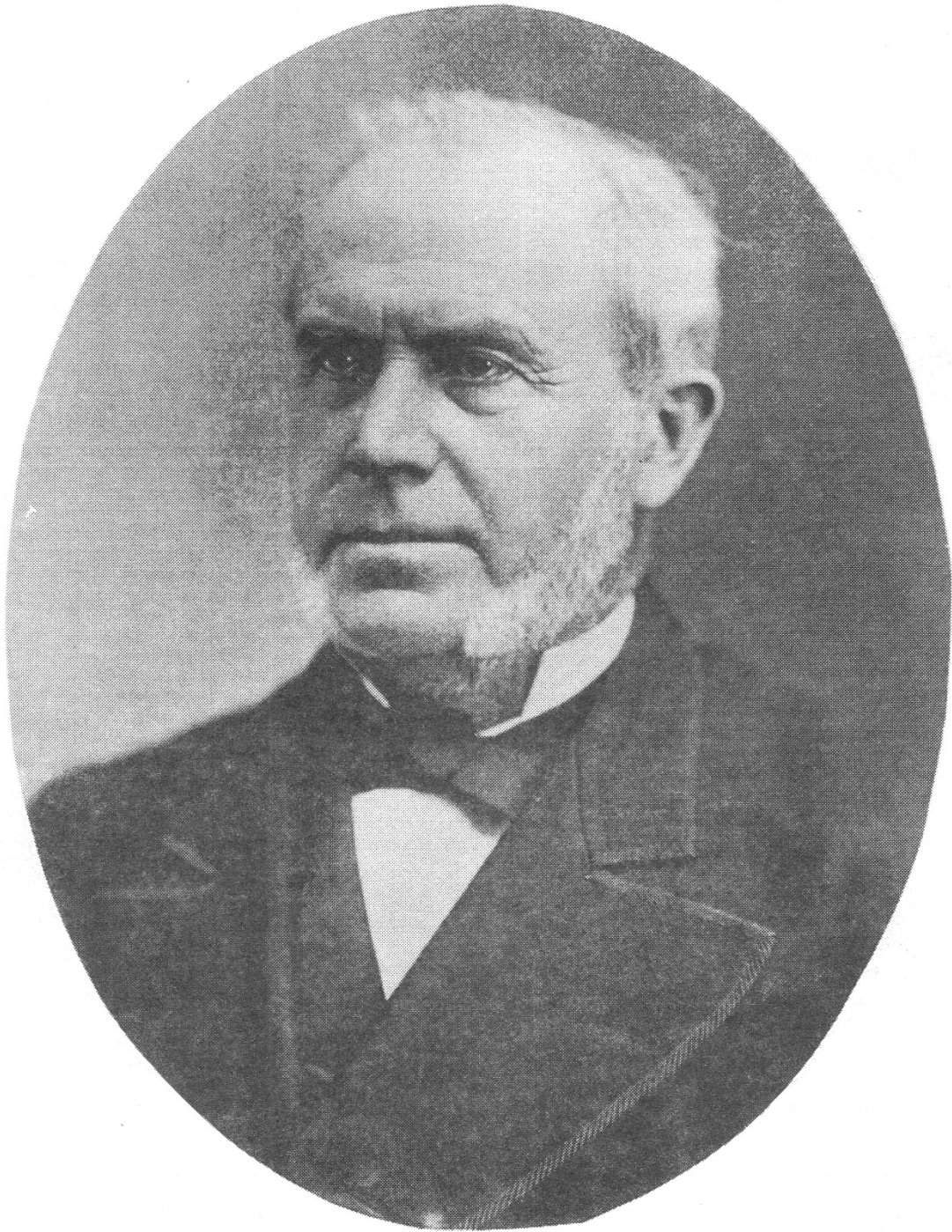
Pennsylvania Coal Company's Passenger Car, Pioneer, on Display in Hawley, in 1936. Photo by Helen Loomis Russell, in the Russell Homestead photo archive, Carbondale. There were two passenger trains on the line, one each way (Hawley/Dunmore/Hawley) daily, except Sunday. The cars were side-seated, heated by a coal stove, and illuminated by a pair of oil lamps. A one way trip took a little over 3 hours and cost one dollar.



John B. Smith, General Manager of the Pennsylvania Coal Company's Gravity Railroad, 1850-1885. Photo in the collection of the Carbondale Historical Society.

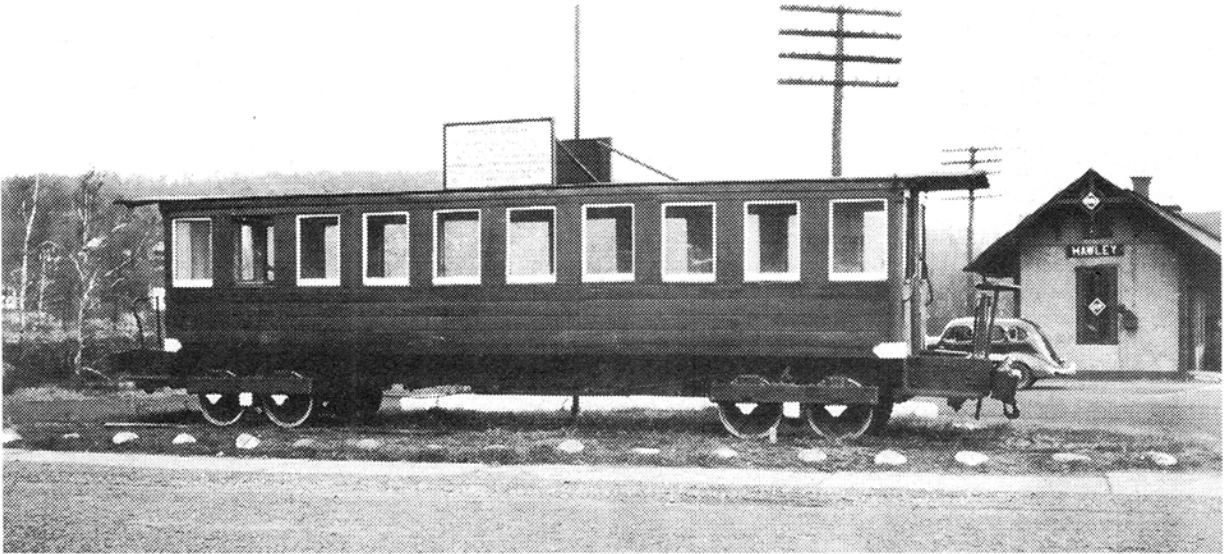
Very nice presentation of the D&H/PCC article in the March 2020 issue of the *BLHS Bulletin* (pp. 16-17, and 13), with a remarkable, full-page presentation of the likeness of John B. Smith:

by S. Robert Powell, Ph.D.



BLHS *Bulletin* – March 2020

17

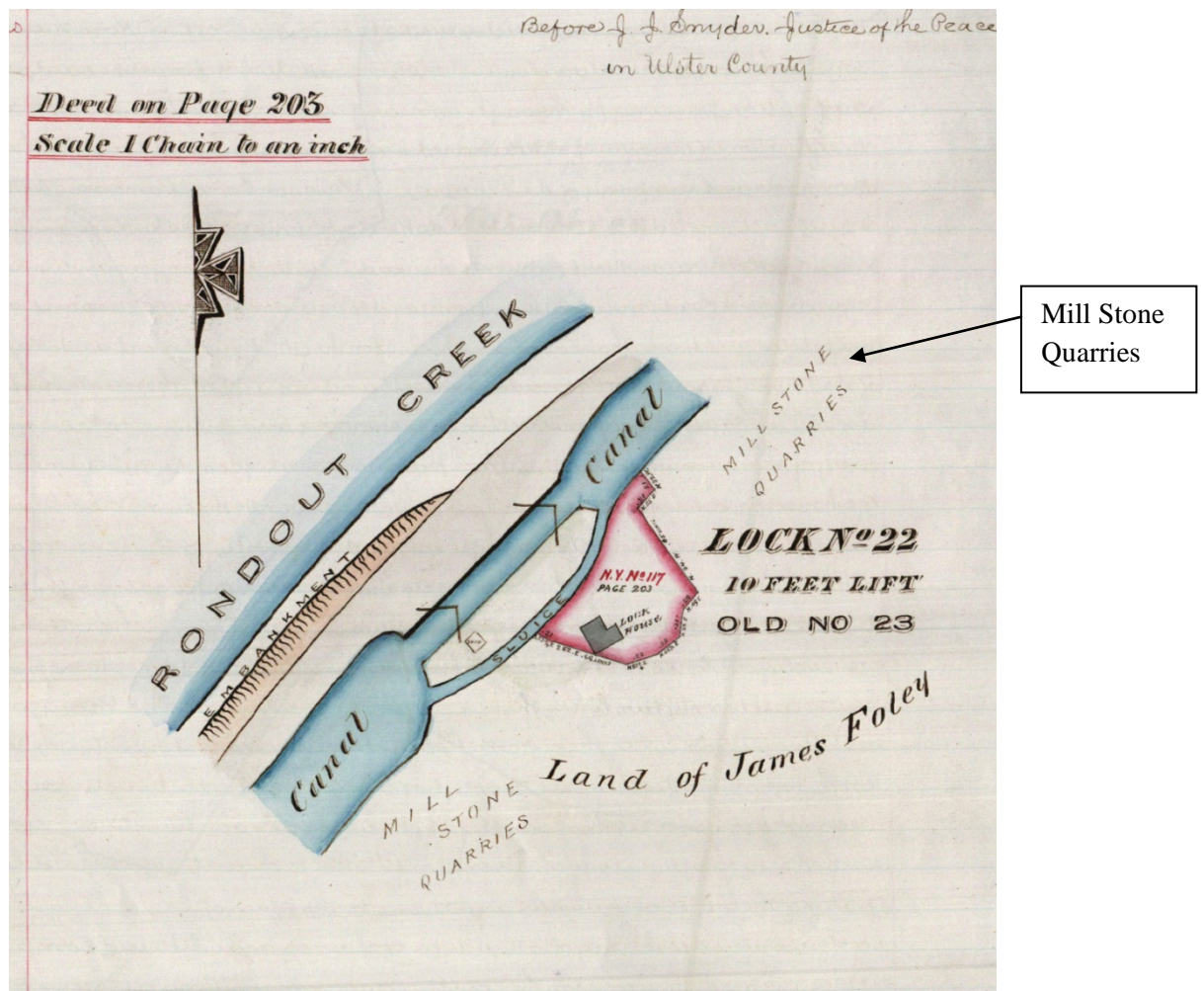


Page 13:

Top: Pennsylvania Coal Company's passenger car, "Pioneer", on display in Hawley, Pa. in 1936. There were two passenger trains on the line, one each way (Hawley/Dunmore/Hawley) daily, except Sunday. The cars were side-seated, heated by a coal stove, and illuminated by a pair of oil lamps. A one-way trip took a little over three hours and cost one dollar. Photo by Helen Loomis Russell, Russell Homestead photo archive, Carbondale, Pa., via **Dr. S. Robert Powell**.

This photo of the *Pioneer*, was given on page 13 (before the body of the article), and presented as if it were not a part of the original article--which is fine. As such, the full-page presentation of the likeness of John B. Smith was possible.

66. Esopus millstones: The following map and text were posted on Facebook by SRP on January 11, 2020:



Map view of Lock No. 22 on the D&H Canal in the Collection of the Carbondale D&H Transportation Museum. At Lock No. 22 (see map shown here), millstone quarries were located right next to the D&H Canal on the land of James Foley.

“Esopus Millstones: The conglomerate rocks found in the Shawangunk Mountains in a narrow strip ten miles long, between Kerhonkson and High Falls on the northwestern slope of the Shawangunk ridge were composed largely of quartz pebbles and/or sand, cemented together by quartz. These rocks, it was discovered, made excellent millstones, and Esopus millstones (which were regarded by many as superior to the very famous Buhr millstones from France, and which were shipped to market from Kingston, formerly named Esopus) were marketed all across America.”

Comments from Facebook viewers:

Jhh Lowengard: Local mills, originally grinding grain, were pressed into service grinding cement, so that gives you an idea how tough they [Esopus millstones] were!



Chester Hartwell:



Rochester near which is a quarry of excellent millstones.

And the THREE DELAWARE COUNTIES: By Lewis Evans. MDCCXLIX.

MDCCXLIX.

1749

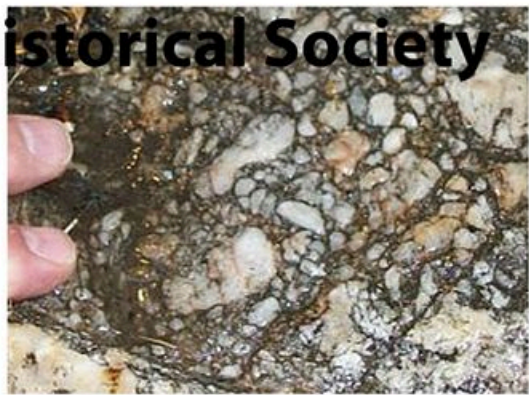
Settled in 1643, Dutch Kills was the first community in Queens.
1664-Dutch surrender New Amsterdam to the British.
By the 1860s, tidal mills were becoming obsolete.



GLENERIE



Ulster County Historical Society



DeWitt Mills

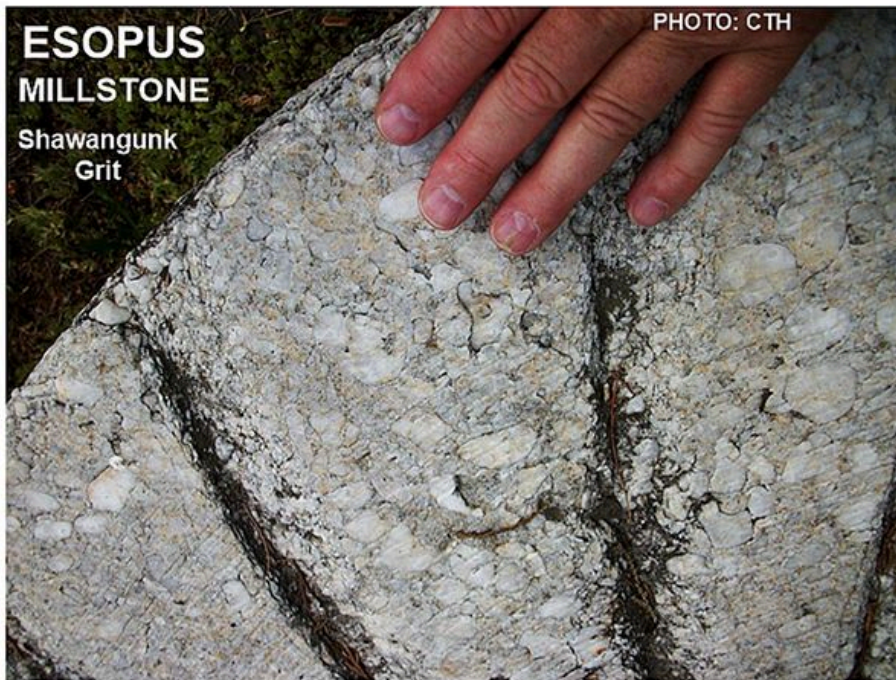


Chester Hartwell

ESOPUS MILLSTONES

June 17, 2019

Solid single piece millstones quarried from quarries along the Shawangunk ridge above Accord. The familiar term is *Shawangunk Grit*. These quarries were noted on early British maps and were probably used in Dutch era and later TIDAL MILLS around western Long Island. These stones were roughing stones and not used for white flour according to the late miller- Ted Hazen. They were local, cost-effective and sold world-wide. French Buhr stones were segmented, hollow stones that were self-sharpening and easily produced fine white flour.



ESOPUS MILLSTONE

Shawangunk
Grit

PHOTO: CTH



French BUHR -or- BURR Stone

PHOTO: CTH

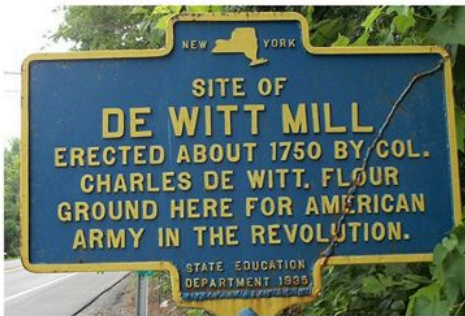
Millstones are made from other rocks like granite, etc.

facebook

I LIKE SAUGERTIES



DEC. 23, 2019
Chester Hartwell



MONTAGE- DeWitt Mills July 2012 Chester Hartwell

Comment by SRP:

Silas Robert Powell: Thank you Chester Hartwell for the wonderful material on Esopus Millstones. Maybe some time this spring or summer, a day-long Seminar/Field Trip on Esopus Millstones could be organized?

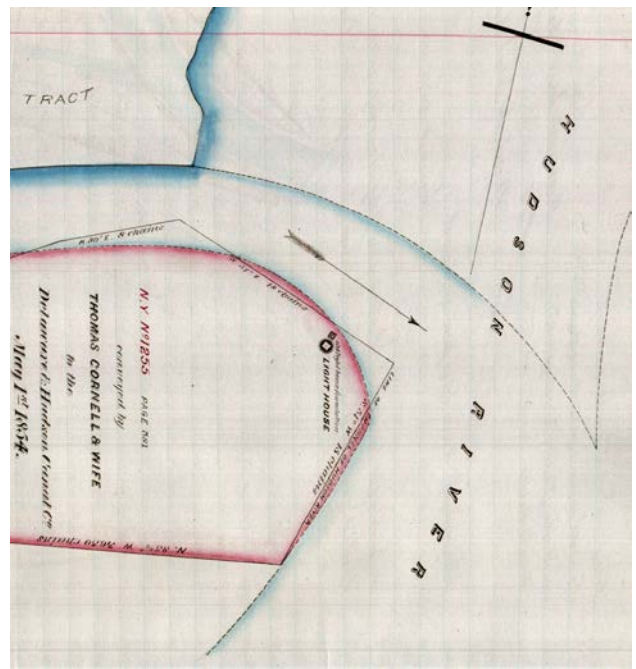
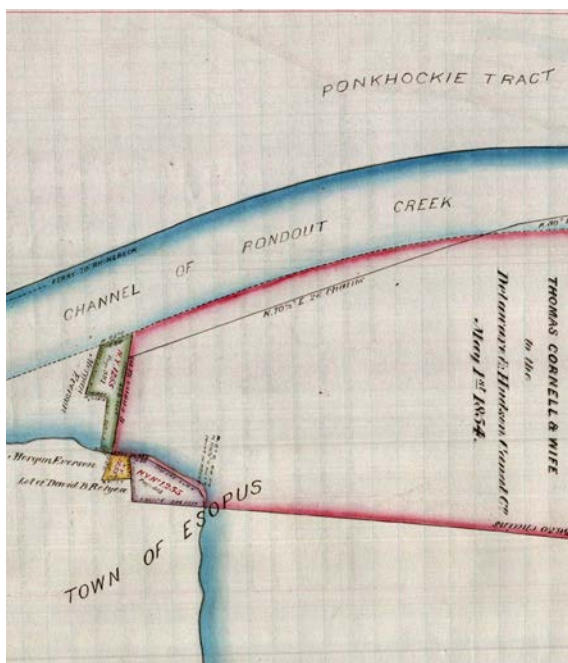
The Esopus Millstone Company was a world-wide business based in Kingston, NY. It sold standard and custom 'Esopus Grit' Millstones quarried in the Shawangunks above Accord, NY. The stone is a compressed peanut brittle type array of various sized quartz pebbles. The stones ground everything you can imagine but were not very good a white flour but OK with other grains. They ground limestone for cement, lead-oxide for lead paint, wood pulp for paper making, animal feeds, etc. The quarrying of these stones goes back to the Dutch era and recently a pair were found from the 'Dutch Kills Tidal Mill' in Long Island City--long since covered over to become the Long Island Railroad Yard. Since Long Island was flat but had some reasonable tides, these bi-directional flowing waters were tapped as an energy source.

More on Esopus:

The **Esopus tribe** is a tribe of Lenape (Delaware) Indians who were native to upstate New York, specifically the region of the Catskill Mountains. Their lands included modern-day Ulster and Sullivan counties. The Lenape originally resided in the Delaware River Valley before their territory extended into parts of modern-day New York (including the Catskill Mountains and Lower Hudson River Valley), Pennsylvania, New Jersey, and Eastern Delaware. The exact population of the Lenape is unknown but estimated to have been around 10,000 people in 1600. The Esopus people spoke an Algonquin dialect known as Munsee.

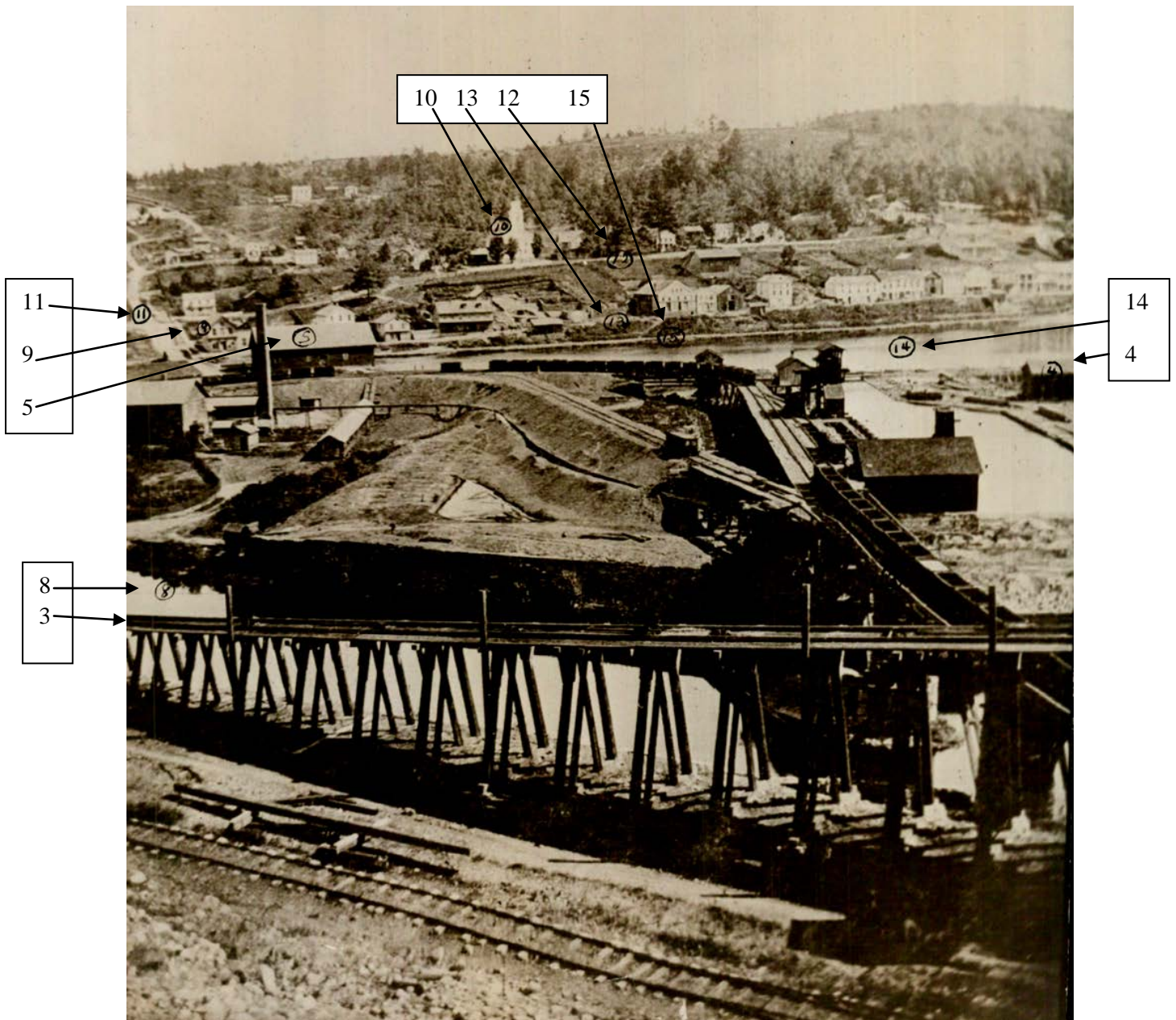
In the seventeenth century, the Esopus area was a notable trading site between the Dutch colonists and the native Esopus tribe. The Town of Esopus was founded by Americans in 1811 from territory taken from Kingston, New York, which also was called "Esopus" at one time.

In the early 19th century, Esopus was a popular summer residence for wealthy American families such as the Astors, Durkees, Paynes, Rockefellers, Smiths, Tiffanys and Whitneys, who built architecturally significant mansions and hunting lodges on the west bank of the Hudson River, across from the Vanderbilt and Roosevelt estates on the east bank.

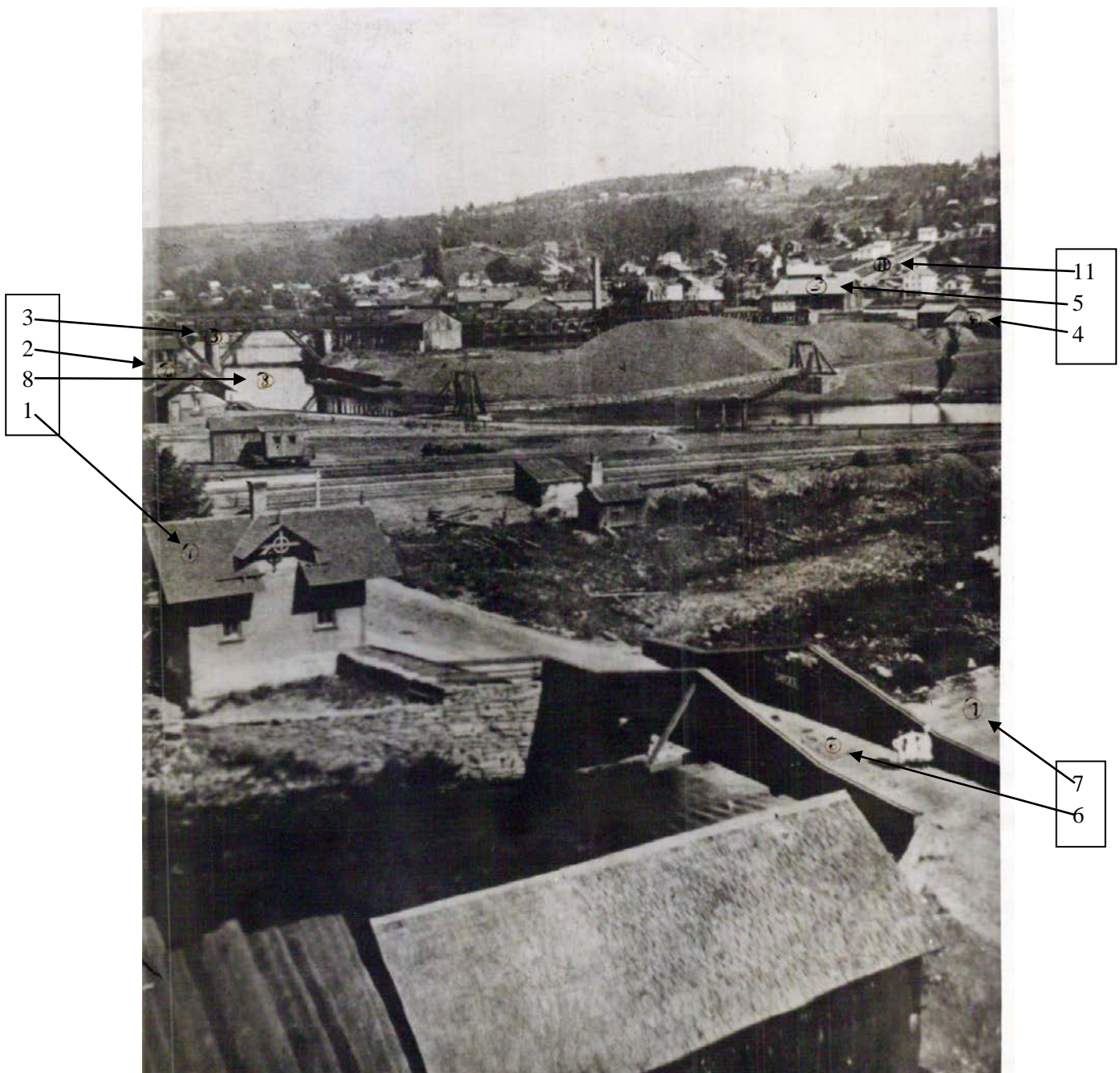


The Town of Esopus, the Rondout Creek, and the Hudson River

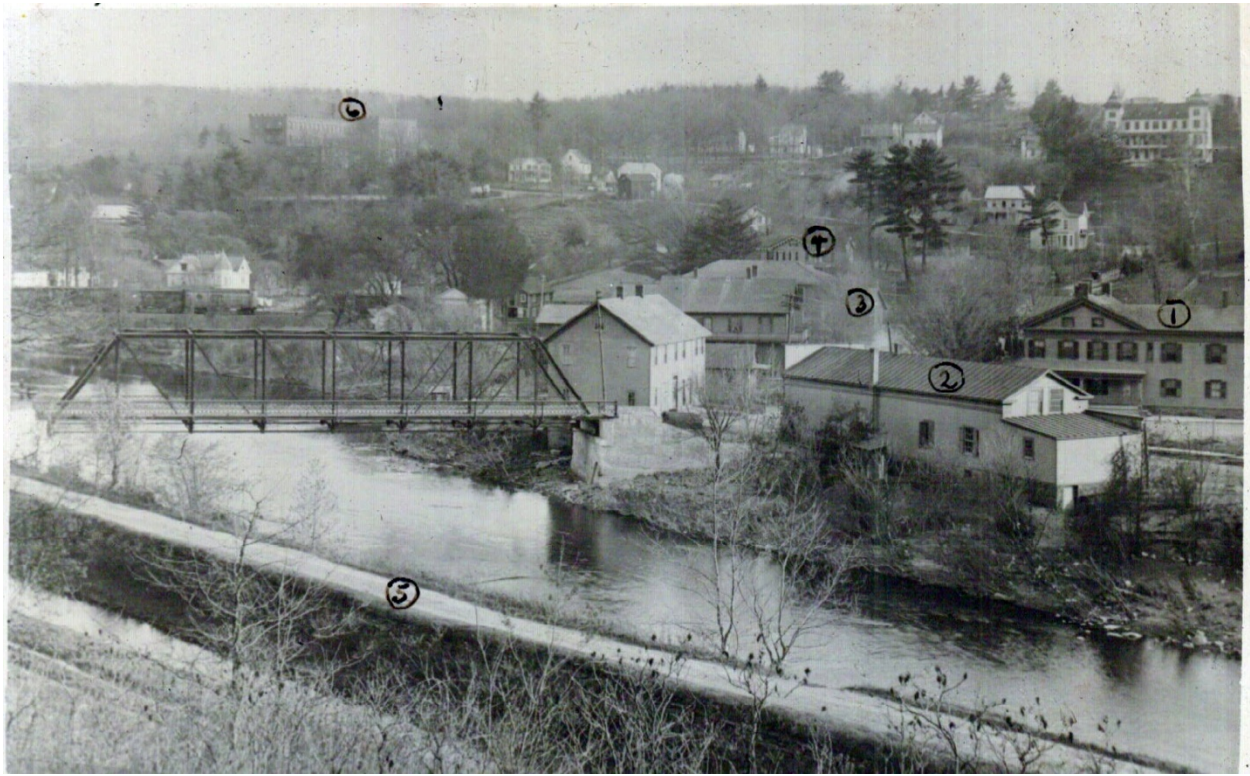
67. *The Hawley Basin: A Closer Look.* Map of Hawley basin, in the Pike County Historical Society at Port Jervis, photographed there by SRP on September 20, 2013:



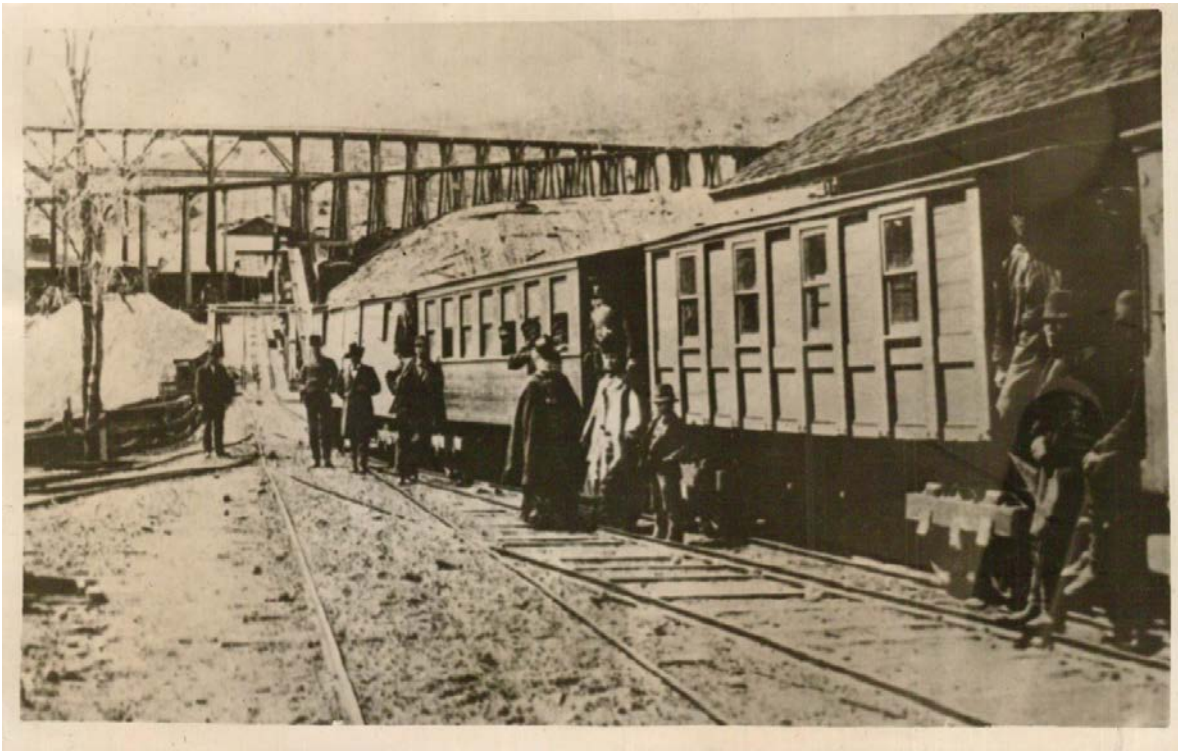
Caption written beside this photo in a scrapbook in the collection of the Pike County Historical Society, Milford, PA: "50 - Hawley basin in the 1860s used for loading the coal of the Penn'a Coal Company. Their Gravity Railroad carried coal from the Scranton district to Hawley by way of Middle Creek. After the Erie R. R. reached Hawley in 1863 the Penn'a Coal Company no longer shipped by canal. 3. Pa. Coal Co. trestle, 4. Levi Barker Boat Yard, 5. D&H Canal Freight, 8. Lackawaxen River, 9. Curtis & Evans Store, 10. Presbyterian Church, 11. 7th Street, 12. 2nd Street, 13. 1st Street, 14. Canal Basin, 15. Tow Path."



Caption written beside this photograph in the collection of the Pike County Historical Society, Milford, PA: “#11 1870 Hawley-Penna. Coal Co. loading docks. From roof of Nalin home on old 14th St. 1. Office of Penna Coal Co, 2. Erie R. R. Depot, 3. Penna. Coal Co. Trestle, 4. Levi Barker’s Boat Yard, 5. D&H Freight House, 6. 18th St (now Main St), 7. Middle Creek, 8. Lackawaxen River, 11. 7th Street.”

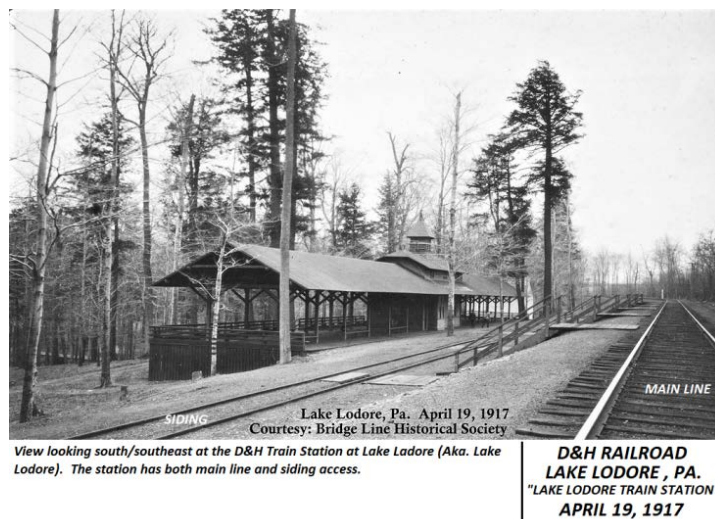


Photograph numbered 153 in Pike County Historical Society collection: "Hawley-Eddy Bridge, 1; Eddy Hotel, 2; Cromwell and Solliday's Store, 3; Lower Depot, 4; J. S. Atkinson, 5; D&H Canal Tow Path; 6. Silk Mill."



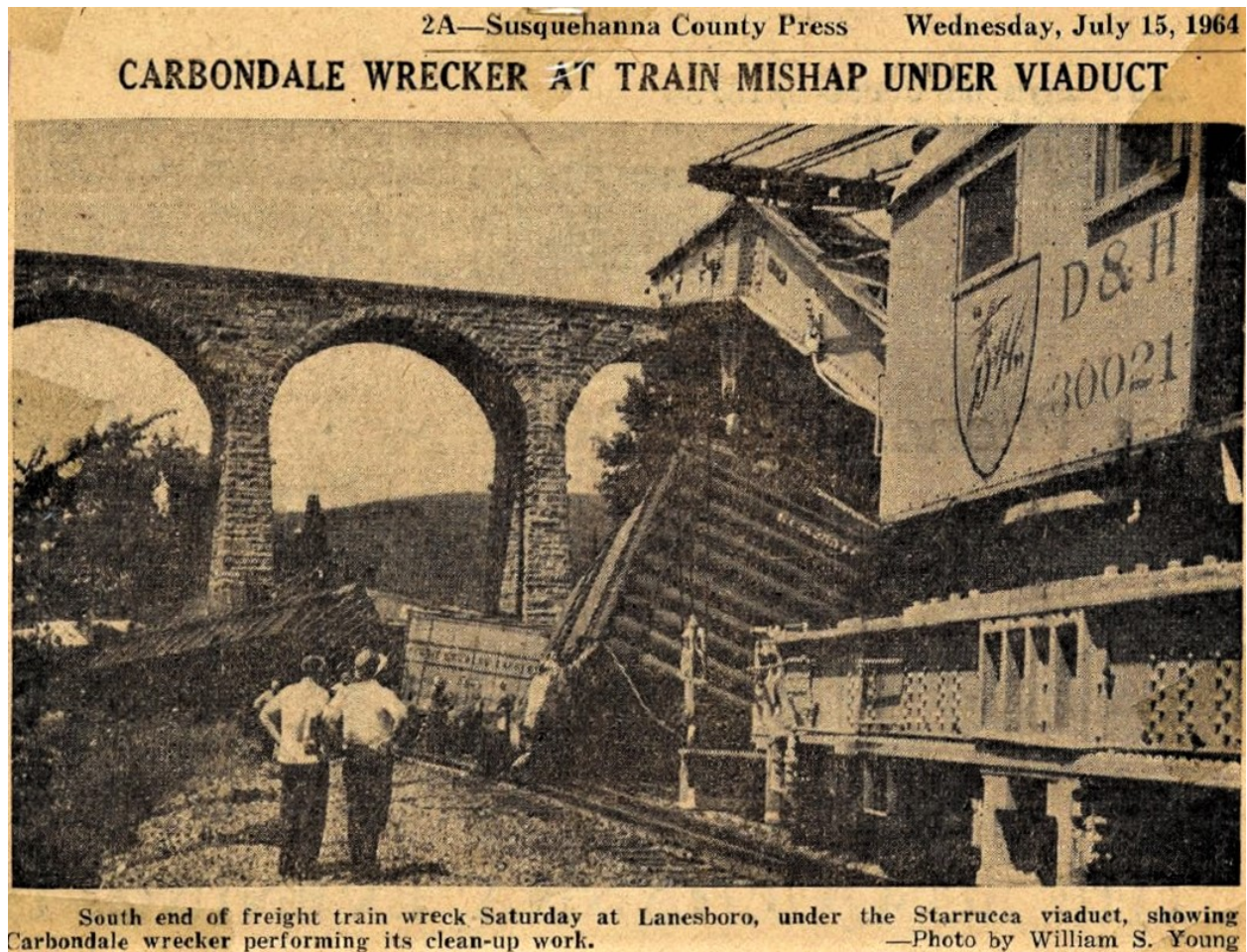
Pennsylvania Coal Company Passenger Train about to Depart from Hawley for Dunmore. Photo in the collection of the Pike County Historical Society, Milford, PA

68. *Lake Lodore Station, 1917*, BLHS photo; commentary from Stacy Gardner, January 11, 2020:



69. Lanesboro wreck, July 11, 1964: clipping from Stacy Gardner, January 15, 2020:

“Robert, Do you have any other info on the derailment seen on the attachment? The photo is looking east and states that the wrecker came from Carbondale. I think that 30021 came from Binghamton and the derrick you see under the viaduct is from the wrecker out of Carbondale - probably 30020. The lines from Carbondale are blocked from derailed rolling stock so 30021 had to have come down from the north of Lanesboro. Stacy”



Facebook, January 30; posted by Adam Austin Arnold:



Comment by SRP: These excellent black and white photos look to me like they were taken at the wreck in Lanesboro on July 11, 1964 (see newspaper clipping given here).

70. D&H Canal poster: "Regulations & By-Laws Del. & Hud. Canal, 1855": facsimile produced in the late nineteenth or early twentieth century by "F. B. Penniman, Printer, Honesdale, Pa." (printed in the lower right hand corner of poster). The 1855 original was produced by the "Office of the Delaware and Hudson Canal Company, New York, March 1st, 1854":

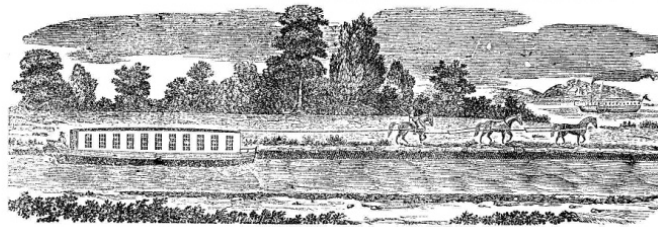
The following Rules, Regulations & By-Laws

ARE TO BE OBSERVED BY ALL PERSONS USING OR NAVIGATING THE

DEL. & HUD. CANAL,

And they will thereby be entitled to pass on said Canal at the reduced rate of Tolls established by the Board of Managers. All violations of said Rules, Regulations and By-Laws will subject the offenders to the payment of full legal Tolls, or to prosecution for Penalties, Injuries or Misconduct, at the option of the Company. The Penalties affixed to the violations are to be considered as commutations, the prompt payment which will be accepted in lieu of full legal Tolls.

1855.



1855.

THE RULES, REGULATIONS & BY-LAWS ARE AS FOLLOWS:

THE RULES, REGULATIONS &

SEC. 1. All Boats not built agreeably to the model of the Boats of the Delaware and Hudson Canal Company, or a pattern approved of by the Agent of said Company, and all Boats deemed by a Superintendent or Collector on the Canal as being out of repair and in a condition likely to sink, or in any way obstruct the navigation of the Canal, will be charged legal tolls, or may be prohibited from navigating the Canal, at the option of the Company, made known by its Agent, Engineer, Superintendent or Collector to the Owner or Captain of such Boat.

Sec. 2. Every Boat shall have her name and the place where owned, painted in letters not less than four inches in height, on a permanent part of the Boat, so as to be conspicuous from both sides of the Canal, which shall not be changed during the season of navigation without the consent in writing of an Agent of the Company. The Boat shall be kept properly ironed, and smooth on the bottom so as not to catch lines when passing over them, under a penalty of \$5 for every violation of either of the requirements of this Section.

Sec. 3. Every Boat or Float shall be towed by an efficient horse or horses, so as not to unnecessarily impede the passage of other Boats or Floats; shall have a competent crew of at least three male persons, one of whom shall be with and in charge of the horse or horses at all times when under way, and shall have a conspicuous light on the bow at all times when moving during the night, under a penalty of \$5 for every violation of either of the requirements of this Section.

Sec. 4. The crew of a Boat or Float shall re-main with it all the time it may be passing through a Lock; shall snub with both bow and stern lines, and not let the Boat or Float go against the Gates. They are not to open or shut the Paddle-Gates, or in any way to interfere with the Lock Gates without the permission of the Lock-tender; they shall hold their craft in an efficient manner so as not to impede the movement of the Lock Gates; they shall draw with their horse or horses in or out of the Lock, as the case may be, with proper dispatch; and comply with the directions of the Lock-tender in regard to all matters pertaining to their passing through Locks, and not in any way obstruct the passage or unreasonably hinder other Boats or Floats passing into, through, or out of Locks, under a penalty of \$5 for every violation of either of the provisions of this Section, and be liable for all the damage which may accrue in consequence of such neglect or violation.

Sec. 5. Boats are to have a preference over Rafts in passing the Locks. Boats or Floats engaged in improving or repairing the Canal shall have the preference in passing through the Locks, and all Boats or Floats when waiting for a passage through a Lock shall lie on the berme side of the Canal, unless otherwise directed by a Lock-tender, and allow a clear passage for any Boat or Float that may be passing in or out of said Lock. A Boat below, when the Lock is empty, or above when full, if within 500 feet, shall pass through such Lock before another Boat that may be on the opposite level, unless otherwise directed by the Lock-tender. No Boat or Float shall be laid up or moored at any time within 150 feet of a Lock, without permission of a Lock-tender, and at no place on the line of the Canal so as to obstruct the free passage of other Boats or Floats, under a penalty of \$10 for every violation of either of the provisions of this Section. The person having charge of a Boat or Float shall, when within a quarter of a mile of a Lock, blow a horn as a signal to the Lock-tender, under a penalty of \$1 for every neglect thereof.

Sec. 6. No Boat, Craft or Float shall run along side of any other Boat, Craft or Float so as to wedge or obstruct the navigation at any place on said Canal, nor pass any other Boat or Float that may be within 400 feet of a Lock toward which said Boat, Craft or Float may be progressing, without permission of the Lock-tender; and every Boat, Craft or Float which neglects to be ready and to improve the first opportunity, without any delay, for passing a Lock, shall lose its preference in regard to all Boats, Crafts or Floats that may be then waiting and going the same direction at said Lock; and when so directed by any Officer or Lock-tender, the crew of any such negligent Boat, Craft, or Float, shall promptly move and moor the same out of the way without impeding the navigation of others, agreeably to such

directions, under a penalty of \$5 for every violation of either of the provisions of this Section.

Sec. 7. No Boats or Floats shall be moored on the Tow-path side of the Canal, or any lading be taken on board from, or be discharged on, the Tow-path without special permission from an authorized person in the employment of the Delaware and Hudson Canal Company, and then a competent person shall be on board to pass over lines, and not impede in any way the passage of Boats or Floats. No Boat or Float shall be snubbed or fastened to the superstructure of the Wire Suspension Aqueducts, or any Bridge or protection Railings along the Canal, under a penalty of \$10 for every violation of either of the provisions of this Section, and a further liability for all damage that may accrue in consequence of such violation.

Sec. 8. When Boats or Crafts navigating the Canal meet, not at a Lock, those going from Tide-water shall keep the Tow-path side, and those going towards Tide-water shall drop their line and pass on the berme side, and both give every facility for passing. When any two Boats, passing from different directions, approach a narrow place in the Canal, which will not permit their passing each other, the Boat going from the Hudson River shall stop at a suitable distance, while the other shall pass such narrow place, under a penalty of \$10 for every violation of either of the provisions of this Section.

Sec. 9. No Boat or Craft shall pass along the Canal at a faster rate than three miles an hour; but every person having charge of any Boat or Craft, when overtaken by another, unless within twenty rods of a Lock, shall drop his line and afford reasonable facility for such Craft to pass by him, without reference to the rate they may be driving, under the penalty of \$10 for every violation of either of the provisions of this Section.

Sec. 10. Any person who shall obstruct the navigation by letting his Boat sink in the channel, or by means of loading or unloading his Boat or Float, or by misplacing or mismanaging the same in any way, shall be subject to a penalty of five dollars, and pay all the expenses incurred in removing such obstruction, and shall also be liable to a further penalty of two dollars per hour for every hour that such obstruction remains, and during which the crew of said Boat or Float do not exert efficient labor and means for removing the same, and the owner or the person in charge of the Boat or Float that causes such obstruction shall in all cases be liable for all damage that may occur to any other Boats or Floats in consequence of said obstruction not having been made known to those navigating them.

Sec. 11. Any person who shall obstruct the navigation of said Canal by sinking any Vessel, Coal, Stone or other substance to the bottom of the Canal, or by placing such obstruction upon or against either of the banks of the said Canal, shall forfeit and pay the sum of twenty dollars, and the expense necessarily incurred in removing such obstruction, and, failing to pay on demand, shall be prosecuted according to law.

Sec. 12. Any person who shall wantonly or unnecessarily waste the waters of said Canal by opening any Lock, Gate, Paddle-gate or Waste-weirs, or who shall maliciously injure the Gates, Locks, Culverts, Bridges, Fences, or other works of the same, or impede the free use of such Locks or other works, or damage or injure the same, shall forfeit and pay to the said Company, four times the amount of damages by them sustained, together with the costs of suit, to the utmost rigor of the law.

Sec. 13. Any person throwing the carcass of a dead Animal, or other putrid substance, into the Canal, or any Basin or Feeder, or on any Bank connected therewith, shall forfeit and pay the sum of \$5; one-half of which shall be paid to the informer, after the same shall have been collected from the offender.

Sec. 14. Every person navigating the Canal by means of setting poles or shafts, shall forfeit and pay the sum of \$5 for every twenty miles so navigated, and in the same proportion for a greater or less distance; nor shall any setting-poles or shafts, pointed with iron or other metal, be used or carried in any Boat navigating said Canal, under a penalty of ten dollars.

BY-LAWS ARE AS FOLLOWS:

Sec. 15. Any person *who shall drive any* Wagon, Carriage, or other Vehicle, or lead or drive any Horse, Mule or other Cattle, upon the tow-path or berme bank of the said Canal, except in going to or from their Boats for the purpose of transportation upon the Canal, shall forfeit and pay the sum of \$5, and be liable to prosecution for trespass and all damages.

Sec. 16. Every person having charge of any Boat or Craft, who shall *take on board his Boat or Craft, or otherwise break down or destroy, any Fence or Fencing Materials belonging to the Fences along the Canal,* or have any such Fence Rails, Boards or Materials on board his Boat or Raft, not properly entered on their permits or clearances as freight, shall forfeit and pay the sum of \$5 for every violation of either of the provisions of this Section, and be liable for all damages that may occur in consequence of such violation.

Sec. 17. No Boat or Float shall be entitled to a Permit or Clearance, until the owner or person in charge thereof shall have previously furnished to the Collector an accurate statement or report of the weight or quantity of its cargo; and every person having charge of any Boat or Craft on said Canal shall furnish and deliver to the most convenient Collector at the commencement of the trip, and to every Collector of whom a Clearance is demanded, a true report of the quantity or weight of his said Cargo, and if it be a mixed Cargo, shall make a detailed statement of it, (exhibiting his bills of lading, if required,) giving a just account of said cargo, being mixed or otherwise, in writing, signed by such person, a duplicate of which he shall also sign in the Collector's Office, containing a statement of the weight, quantity, and description of all property on which toll is charged, together with the name of the said Boat or Float, and the name of the person having charge thereof, where and by whom owned, the place from which said property is to be cleared, and where the same is to be landed or cleared to, and all other particulars, according to the Blanks in use along the said Canal, and on his arrival at every subsequent Collector's Office in the progress of the trip, it shall further be his duty to deliver to the Collector a similar detailed statement of all property that may have been taken on board subsequent to leaving the last Collector's Office, and every such person violating or offending against either of the provisions or stipulations of this Section shall forfeit and pay the sum of \$25 for every such offence.

Sec. 18. All Boats or other Craft, and their cargoes, shall be subject to the inspection of any Collector or person that may be appointed for that purpose, in order to prevent fraud in the payment of tolls. And when any Boat or Craft navigating said Canal shall be laden with articles subject to different rates of toll, or with articles some of which shall be charged by weight, and others by measure or count, it shall be the duty of the master or owner so to arrange the said lading that the several Collectors and Inspectors on the Canal can conveniently examine and inspect the same; and if not so arranged, the master or owner shall, at his own expense, on the request of any Collector or Inspector, unlade in whole or in part the said cargo, so as to furnish all the necessary information for the purpose of imposing tolls or detecting and preventing fraud: and in case of the neglect or refusal of any master or owner to comply with this regulation, the whole cargo of such Boat or other Craft shall be charged with toll at the rate of those articles on board paying the highest rate of toll, not however exceeding the legal rate.

Sec. 19. If any owner or forwarder of property cleared on the Canal, shall refuse to exhibit his books or accounts on request, to any Collector on the Canal for the purpose of his ascertaining the correctness of the statements furnished him of such property, the Boat or Craft upon which it is or may have been cleared shall be subject to a penalty of \$5 for every such refusal.—Any person having charge of any boat who shall refuse to take his boat into a Weigh-lock on said Canal, when required by a Collector or Weigh-master on said Canal, for the purpose of ascertaining the weight of said Boat or of its cargo in regard to the charging of tolls, shall be subject to a penalty of \$25 for every such refusal.

Sec. 20. Every person having charge of any Boat, Craft, or Float navigating said Canal, which shall be loaded, take on board any articles, or start along said Canal from a point or place

where there is no Collector's Office, shall procure a certificate or an entry on their Permit or clearance of the same, by or from the most convenient Lock-tender, Superintendent or Foreman on said Canal, describing said loading, articles or property, with the weight or quantity, the place where loaded, taken on board, or started from and where to be left, stopped or landed, and the toll shall be paid at the first Collector's office at which said Boat, Craft or Float shall arrive, and in case said Boat, Craft or Float does not proceed to a Collector's office, the said toll shall be paid at the most convenient Collector's office within six days. No Boat, Craft or Float shall pass on said Canal between Collector's offices without a certificate, permit or clearance from a Collector, Superintendent, Foreman or Lock-tender, and in case the said Boat, Craft, or Float does not proceed to a Collector's office, the said certificate, permit, or clearance, shall be left with the Lock-tender of the last lock through which said Boat, Craft or Float shall pass, under a penalty of \$5, in addition to the assessed toll, for every violation of either of the stipulations of this section.

Sec. 21. In case when upon a critical examination, the report or statement in regard to any property, Boat, Craft, or Float transported on or navigating said Canal, shall be found to have been falsely represented by the person having charge thereof, or making such report or statement for the purpose of obtaining a permit or clearance, or paying toll thereon, the excess ascertained to be chargeable, over and above what it was or would have been if charged agreeably to such report or statement, shall be charged and paid at four times the rate that it would otherwise have been, (not however, exceeding the legal rate) and in addition to the penalty or penalties stipulated for the other particular violations.

Sec. 22. No Collector shall give a Permit or clearance before the assessed toll is paid, unless specially authorized to do so by the President or other Officer of said Del. & Hud. Canal Co.

Sec. 23. Every person in charge of a Boat, Craft, or Float which shall pass a Collector's office without having first obtained the required permit or clearance, shall forfeit and pay a penalty of \$5, in addition to any other stipulated penalty, for every time he shall so pass any Collector's office.

Sec. 24. Upon the payment of the toll assessed upon any Cargo, Boat, Craft, or Float, a permit or clearance shall be given to any person having charge thereof, which he is required to present at every subsequent Collector's office during his passage, and have it also countersigned at every such Collector's office, (unless exempt from such a presentation by special agreement) and also, to present such permit or clearance to the several Officers, Lock-tenders, Superintendents and Foreman on said Canal when required, and he will thereupon be allowed to pass; and such permit or clearance is to be delivered to the Collector at the last office he shall pass in the course of said passage, and in lieu of which he will receive a permit for passing the subsequent distance and locks through which said Cargo, Boat, Craft or Floats may have been cleared, which permit he is to deliver to the Lock-tender of the last lock through which he passes, under a penalty of \$5 for every neglect or violation of any of the stipulations of this section.

Sec. 25. For all violations of the foregoing Rules, Regulations and By-Laws, the stipulated penalties shall be deemed to be in addition to the stipulated or mitigated tariff of tolls, and chargeable and payable at any Collector's office designated by the officer or person inflicting such penalty.

Sec. 26. In all cases when a violation of these Rules, Regulations and By-Laws has occurred, and penalties incurred remain unpaid, the Boat or Craft so violating them, will be deemed liable and may be detained under the direction of a Collector or Agent of said Company, until full payment has been made, without reference to time, place, change of cargo or ownership of either boat or cargo so detained.

Sec. 27. It shall be the duty of the Board of Managers, through the Officers, Engineers, Superintendents and Lock-tenders on the Canal, and they are hereby enjoined to carry the foregoing Rules, Regulations and By-Laws into full effect, and to enforce the penalties therein provided for a violation of them.

**By Order of the Board of Managers,
JOHN WURTS, *President.***

Office of the Delaware and Hudson Canal Company, New York, March 1st, 1854.

EXTRACT FROM THE LAWS OF PENNSYLVANIA.

Sec. 7. If any person or persons, engaged in transporting Coal, Iron, Lumber, or other articles of Merchandize, or any property whatsoever, on any river, railroad or canal within this Commonwealth shall sell, dispose of, or pledge the same, or any part thereof, without the consent of the owner or owners thereof, such offence shall be deemed a misdemeanor; and a conviction therefor shall be punished by fine, not less than fifty, nor exceeding five hundred dollars; and such imprisonment in the County Jail in which the offence is committed, for a term of not less than twenty days, nor more than one year, at the discretion of the Court.

Sec. 8. If any person or person, after the 1st day of July, Anno Domini, 1846, shall purchase any Coal, Iron or other articles of Merchandize, or any property whatever, consigned to any person in this State, or in any adjoining State, knowing the same to be consigned from any Captain of a canal boat, or any other person engaged in transporting the said property, he, she or they so purchasing shall be liable to pay such owners double the value of the property so purchased, to be recovered with costs of suit by action of trover or trespass on the case; and the said action may be brought in the name of the consignee or consignor; and no prosecution by indictment against the person or persons having sold such property, shall be any bar to such action.

F. B. Froelman, Printer, Honesdale, Pa.

71. WM F7 at Belden Tunnel, posted on Facebook, January 21, 2020:

Anthony Stillittano: April 8, 1979 Delaware & Hudson Tunnel, NY. Pusher crew graciously spotted the 7163 at the south-end portal for a few photos.



Charles Newton: The WM F7 came through Buffalo on an NE4 grain train as trailing unit.

72. "Nationalization" article in February 2020 *BLHS Bulletin*, pp. 16-17:

See No. 61,
above, for first
draft of article

SRP wrote first draft of this article

Report from the BLHS Archives Committee

The U.S. entry into World War I in April 1917 coincided with a downturn in the fortunes of the nation's railroads: rising taxes and operations costs, combined with prices that were fixed by law, had pushed many railroad companies into receivership as early as late 1915. A year later, in a last-minute bill passed through Congress, President Woodrow Wilson forced railroad managements to accept union demands for an eight-hour workday. Still, many skilled workers were leaving the cash-poor railroads to work in the booming armaments industry or to enlist in the war effort.

By the end of 1917, it seemed to some that the existing railroad system was not up to the task of supporting the war effort, and President Wilson decided to nationalize the American railroads. Two days after his announcement, the United States Railroad Administration (USRA) seized control of a large majority of the country's railroads under the Federal Possession and Control Act.

William McAdoo, Wilson's Secretary of the Treasury, was appointed Director General of Railroads. The railroads were subsequently divided into three divisions: East, West and South. Passenger services were streamlined, eliminating a significant amount of "inessential" travel. Over 100,000 new railroad cars and 1,930 steam engines were ordered, designed to the latest standards, at a total cost of \$380 million.

"With nationalization", Jim Bachorz noted, "every railroad took photos of its property, for this was the World War I era, and the government took over the railroads to 'ensure their shipments got through'. What resulted was that the government darn near wiped out the rail system due to little maintenance. During World War II, the government remembered what happened the first time, and wisely let the railroads run the system; that worked well".

In March 1918, the Railroad Control Act was passed into law. It stated that within 21 months of a peace treaty, the railroads would be returned by the government to their owners, and that the latter would be compensated for the usage of their property. Consequently, the USRA was disbanded two years later, in March 1920,

and the railroads became private property once again.

At that time, the D&H had several thousand photographs of its real estate, all taken in the period 1915-1919. As such, the D&H had a photographic record of its property and its condition at the time of nationalization, which meant that the D&H had conclusive evidence, after the war, to support claims if its property was damaged during the war years.

One set of the originals of those photographs, an astonishing collection of rare photographs of D&H real estate, is in the holdings of the Bridge Line Historical Society's Archives. Mike Bischak of Carbondale, Pa., has volunteered to scan all of those photographs, all contact prints, each 4.25" x 2.5", for the BLHS. It is a very large job, with many hours of painstaking work.

As his high resolution (2400 dpi) archival scanning project was proceeding, Mike, with the authorization of the BLHS, gave Dr. S. Robert Powell of the Carbondale Historical Society a sneak preview of many of the Pennsylvania Division photos in the collection. On seeing these photos, Powell remarked, "These photographs are wonderful, unbelievable, and thrilling. Seeing these photos is like opening a new window, after all these years, on the D&H. What is especially wonderful about a great many of these photographs is that we now have photographs of structures of which, until now, no photographs were known to exist, e.g., the Farview turntable, the Lincoln Avenue Waiting Room, and more".

In speaking of these D&H record photographs, Jim said, "I find interesting not only the facilities photographed, but also the people included in the photos. Accidental or otherwise, their inclusion can be enlightening. A crossing gate guard warily eyeing the photographer, a station agent posing for the camera, some neighborhood kids on the station benches, a mine cave-in guard looking happy – or dour – and more. All can be enlightening for D&H enthusiasts and historians, far and near".

The fact that these remarkable photographs of the D&H should surface a hundred years after they were taken is

newsworthy, but as Jim observed, "the story behind the photos isn't new; I think every railroad in the country took such photos. I imagine there are sets of photos, similar to the D&H collection, stored in various collections around the country. They may well be unrecognized for their significance".

Reminiscing from page 6

dows of the train heighten the sense of speed. In thirty seconds the show is over, but what a show! I've watched this three times and have not tired of it.

With an early winter shutting down St. Lawrence County and limiting my travel, I expect Virtual Railfan will be an important winter companion. Thanks to my friend whose kindness has brought big time railroading to my office computer.



See photo on
next page

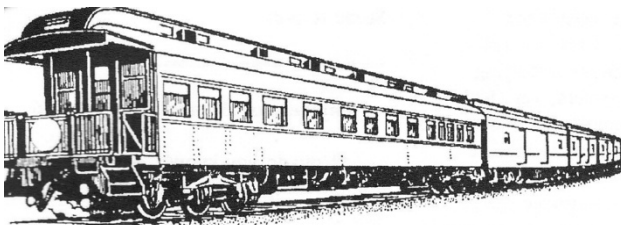
Page 17:

Top: The D&H's modest Lincoln Avenue waiting room in Carbondale, Pa., on the Honesdale Branch. May 4, 1917 record photo by the D&H; BLHS Archives scan by Mike Bischak. See the story on page 16.

Bottom: RS36 D&H 5017 inside the Colonie Diesel Shop. Jan. 6, 1974 photo by Hugh Strobel.



Comment by Steve Wagner in March 2020 issue of *Bridge Line Historical Society Bulletin*, p. 43:



Open Platform Observations

by Steve Wagner

Our February issue

The marvelous photos of railroad property were not the result of the USRA, but of the Valuation Act passed by Congress in 1913, a “Progressive Era” law that required physical evaluation of railroad property to ensure that freight rates were based on substantial investment and not on “watered stock”.

Comment by SRP: The Railroad Valuation Act was passed in 1913. The U. S. Railroad Administration was in effect from February 28, 1917 to March 1, 1920. A few of these “nationalization” photos were taken before February 28, 1917 and a few were taken after March 1, 1920, but most were taken between February 28, 1917 and March 1, 1920, the time period during which the USRA was in effect. If these photos were taken to comply with the RVA (1913), why is there a 3-year or more gap between the 1913 law and the taking of the photos?



From the Top

by Howard Hontz

Once upon a time long ago

This was when the Delaware and Hudson Railroad was largely a double track system on the Pennsylvania and Susquehanna Divisions, with mostly single track on the other divisions, and operated by Automatic Block Signal, Train Order and Timetable authority. This was before Centralized Traffic Control, and switches were operated by Tower Operators in Towers and Cabins at key locations, such as Robinson Street Tower in Binghamton, SW Cabin at Nineveh, FA Tower at Oneonta, DE cabin at East Worcester, XO Tower at Mechanicville, and other locations where traffic was dense enough to require it. Train dispatchers were located in Plattsburgh, Whitehall, Oneonta and Carbondale, with one 24x7 dispatching office for each division. In addition, there were telegraph operators at many stations, and locations where train orders were issued.

Tower and Cabin operators

The employees in the Towers and Cabins worked 24x7, and in addition to operating the switches, which were mostly operated mechanically, they wrote Train and Clearance Orders, and were also adept at using the telegraph.

Some of the levers (controlling the switches) were very difficult to operate. I can attest to this, because as a young boy, I had a friend and former neighbor who worked the day shift at FA Tower; his name was Hi Sexton. I used to visit him when I was in town, and he would

allow me to try to throw one of the levers, and then chuckle as I grunted trying.

Recently, I was at the cabin at Nineveh, which was SW Cabin in past years. I recalled that the employees there covered that place 24x7, and it is in a remote and lonely location. It is centrally located to the switches that controlled the routes to and from the Penn and Susquehanna Divisions, as well as the switches at "Grover's Wye". In years past and before CTC, the traffic through that location was heavy, and included all the Penn and Susquehanna freight trains, plus passenger trains to and from the Penn and

Susquehanna Divisions; plus pusher power from Binghamton that had to be turned at Grover's Wye after pushing a train from Binghamton, and before pushing a train southbound to Binghamton. This employee had to work closely with the Train Dispatcher, the operator at YO Cabin north of Binghamton, and the Erie operator at Lanesboro. He would have had control also for Penn freights and pushers as they left the Erie track and entered D&H at Lanesboro, and pushers needing to turn on the Lanesboro Wye. SW Cabin was one of the first places to be converted to CTC, and the CTC control panel was installed to control the switches not only at SW, but also at Afton. CTC was installed gradually, and done in bits and pieces, as money and time was available.

Recently, the **Oneonta Star** newspaper had an article and picture of one of the employees that covered the job.

Duane Silver, a former D&H train dispatcher, said he started out working as an agent/telegrapher for the Erie RR. He covered positions on the Erie between Carbondale and Lanesboro before D&H purchased that section of railroad from Erie. He said he talked and worked closely with the D&H employees at Nineveh, and became interested in a job with the D&H as a dispatcher, because the employees at Nineveh were teaching him how CTC and dispatching jobs were done. He went to Oneonta, applied for a job, was hired, and spent the rest of his career working on the D&H.

Today

Today these Towers, Cabins and telegraph offices are closed. Train dispatchers are few and remotely located, and they operate the switches using CTC. Computers, cell phones and radio have ended the need for the telegraph, telephone poles and lines, and line phones. Many miles of double track have been retired to single track with passing sidings, reducing maintenance. The cabin at Nineveh (SW) is still there, but is now used by either the Signal or Maintenance of Way departments. Most other Towers and Cabins have also been removed.

At one time, Nineveh was a busy place. My wife had relatives in Carbondale, and used the train from Oneonta to Nineveh, and then from Nineveh to Carbondale.

During my years in Binghamton there was a rumor going around that D&H was going to close Bevier Street yard and construct a new classification yard at Nineveh. This never developed, probably because all the interchanging was done with the Erie, the DL&W and LV at Binghamton, and the lack of room at Nineveh yard.

Technology has made these changes possible, and has greatly reduced the cost of operation, and improved safety. Time marches on, and these changes have made it more possible for railroads to stay in competition with other forms of transportation.



Page 5:

Top: D&H 1516 with a southbound near Richmondville, N.Y. on April 15, 1950; photo by George C. Corey. The two RS3s behind the Challenger appear to be Alco RS3s on their way to a customer, as their stacks are capped.

Bottom: D&H 4-6-2 #651 with passenger train at station; date and location not recorded. From the collection of Richard "Moose" Ouellette via Michael Fall.

74. D&H receipt from Larry Rine, January 29, 2020:

DELAWARE & HUDSON CANAL COMPANY.
Office of General Sales Agent, Western and Southern Department.

SCRANTON, PA., *Nov. 1*, 187*9*

Mr. *J. H. Agnew*
Cambridge Lock Pa

DEAR SIR: The following prices will be charged
for DELAWARE & HUDSON COAL, delivered in cars at
Carbondale, Pa., with freight paid to

C

for *the present* per ton of
2 *000* lbs.:

LUMP.....	\$	
GRATE.....	\$	<i>4.25</i>
EGG.....	\$	<i>4.25</i>
STOVE.....	\$	<i>4.25</i>
CHESTNUT.....	\$	<i>4.00</i>
PEA.....	\$	

JOSEPH J. ALBRIGHT,
GENERAL SALES-AGENT,
SCRANTON, PA.

[SEE OTHER SIDE.]

JOS. C. BATCHELOR, Sales-Agent,
Room 11. No. 122 Water Street, Cleveland, Ohio.

SALES DEPARTMENT.
Office of Del. and Hud. Canal Co.,
Carbondale, Pa., *Nov-13 1879*

J. H. Agnew
Cambridge Lock

We shipped you per Erie Railway.
this day 1 Cars of Coal.

Car No.	Weight.	Class.	REMARKS.
<i>6910</i>	<i>26208</i>	<i>Chen</i>	

F. Smith

75. D&H locomotive, *Reindeer*, posted on January 29, 2020, on Facebook:



Center for Railroad Photography & Art:

Exciting times at the Center! We've just begun to process Jim Shaughnessy's materials starting with his historic glass plate negative collection.

This glass plate shows Delaware and Hudson Railroad steam locomotive no. 183 on a steel pier in Lake George, New York, circa 1908. The Fort William Henry Hotel and Adirondacks are visible in the background. This image is attributed to Fred Thatcher.

As is true with many historic images, these plates arrived with little contextual metadata*. We always appreciate additional information; please send us a message if you have anything to add!

Chris Shepherd: More info on the locomotive:

Built by Dickson Locomotive Works #345, 1882-08-29, was part of the E Class; rebuilt Delaware & Hudson / Oneonta, 1897-00-00 with new builders number, #A-381, reclassified E-1; renumbered #381, 1899-00-00; Final class: G-4b & scrapped 1924-08-00; Originally named 'Reindeer'

* Contextual metadata: Many present-day “historians”, especially those of the “point and click” school, are not willing to move from their computers and do traditional historical research, a procedure that is frequently necessary in order to establish the contextual metadata associated with a photograph or artifact. As such, the documents that the “point and click” school produce are frequently superficial and of little historical value.

76. Lookout Junction, two photos with labels from Stacy Gardner, January 30, 2020:

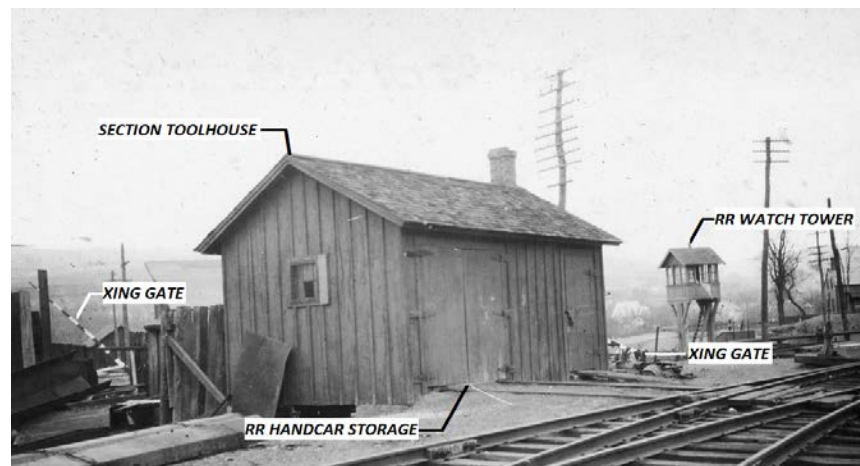
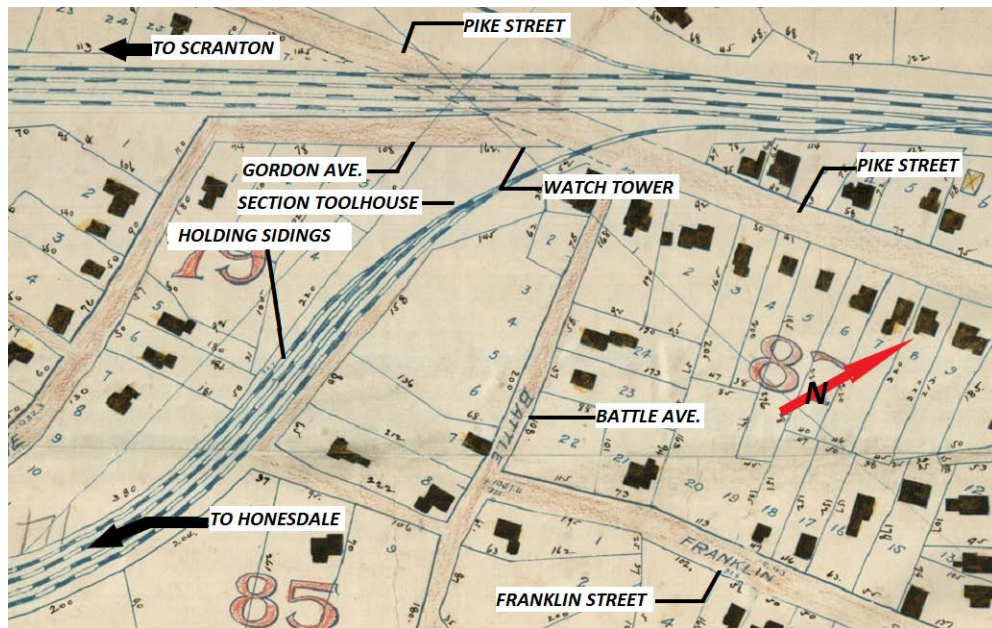


PHOTO COURTESY: BRIDGE LINE HISTORICAL SOCIETY

View looking west at one of several Section Toolhouses located along the D&H Honesdale Branch Line between Carbondale and Honesdale. These toolhouses provide storage for a Section's handcar and tools that are required to do light repair/maintenance jobs on their assigned section of the railroad line. The xing gates and watch tower are on the Pike Street crossing of the main line.

**D&H RAILROAD
CARBONDALE, PA.
LOOKOUT JUNCTION
"SECTION TOOLHOUSE"
APRIL 28, 1917**

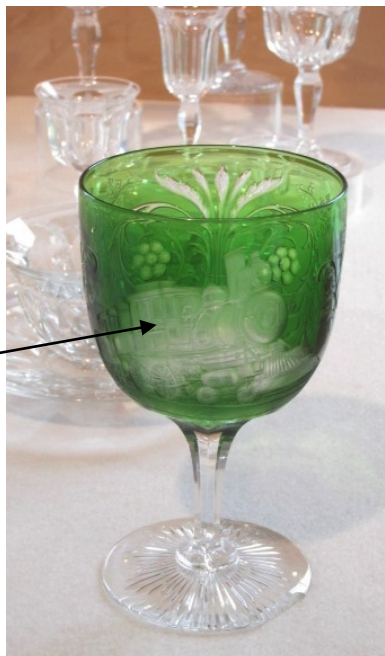


Shown is a view of Lookout Junction where the D&H Honesdale Branch joins both the Erie and D&H main lines on the south end of Carbondale. Also shown are the approximate locations of the D&H section toolhouse and the railroad watch tower seen on the 1917 photo seen below.

**D&H RAILROAD
CARBONDALE, PA.
"LOOKOUT JUNCTION"
MAP DATA: 1909**

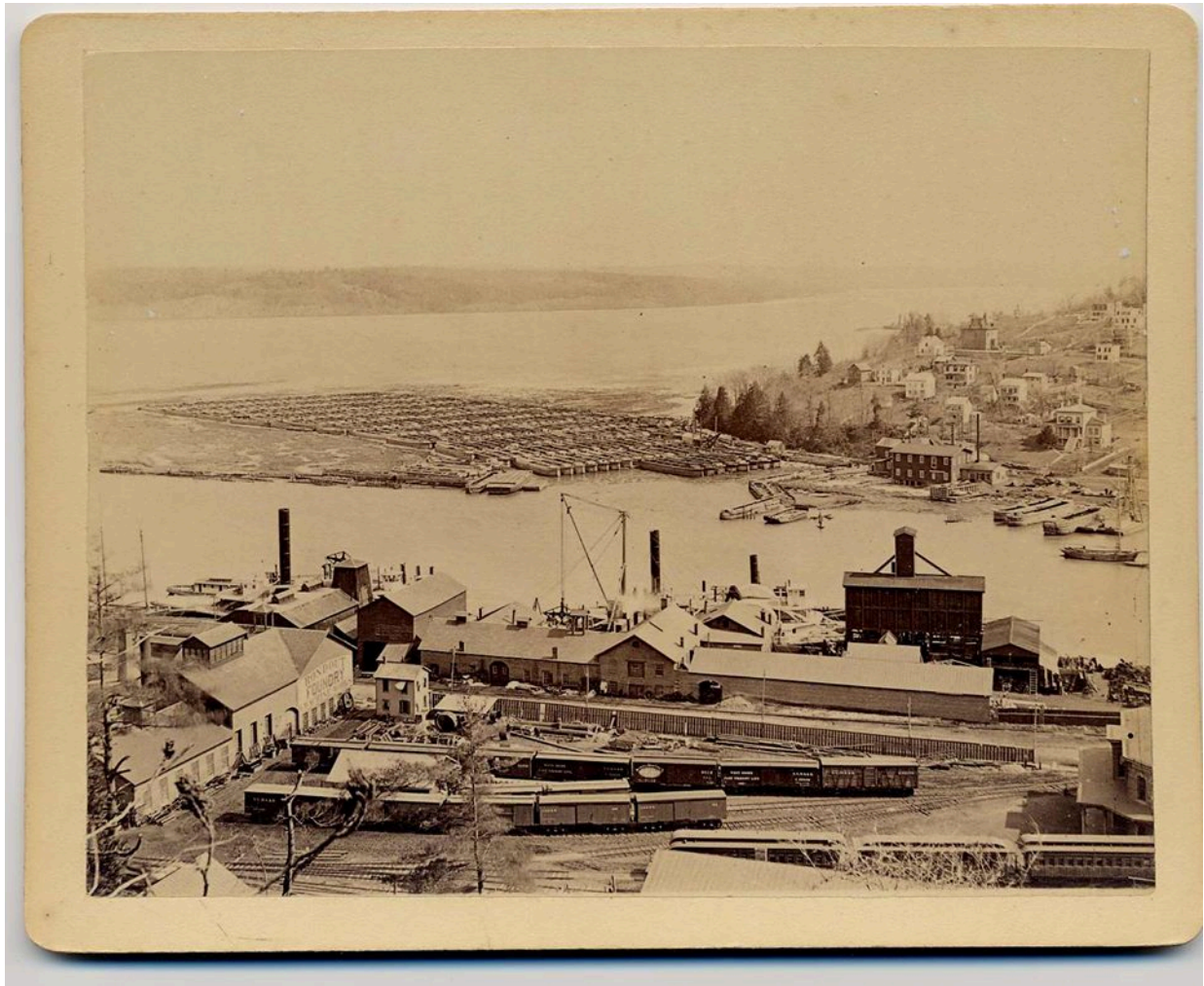
77. Shown here is a Pennsylvania Coal Company goblet in the collection of the Dorflinger Factory Museum, White Mills, PA. Photo by S. Robert Powell.

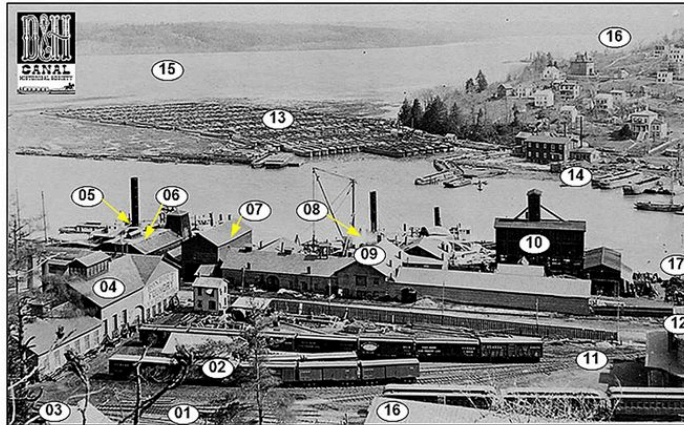
Steam
Locomotive



78. Rondout at the time of the closing of the D&H Canal; posted on Facebook on February 9, 2020, by the D&H Canal Museum:

“What would become the canal boat grave yard, composting and rotting, mixing with soil, vegetation and time to become part of the land mass you see when exiting the Rondout, on your way to the Hudson River. In the foreground, the Ulster and Delaware rail yard and Rondout train station.”





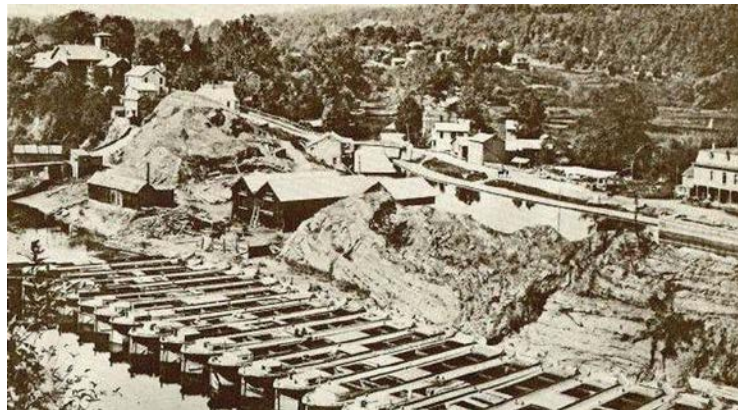
Circa 1900-Looking south-east from Hasbrouck hill. View of the Rondout Creek/ Hudson River, Port Ewen, Sleightsburgh, Rondout, Cornell towing Shops, Ulster and Delaware RR's Rondout Yard (now MP1) and the Ulster Iron Works.

- 01- Ulster & Delaware RR Main line (LEFT to Kingston Point Park)
- 02- Ulster & Delaware RR Rondout yard sidings.
- 03- Ulster & Delaware RR Rondout Carpentry shop ?
- 04- Ulster Iron Works
- 05- Cornell towing Ship: ?
- 06- Cornell towing Shop: ?
- 06- Cornell towing Shop: ?
- 08- Cornell towing Ship: ?
- 09- Main CORNELL Shop (extant).
- 10- Cornell Towing Coal Elevator-burned.
- 11- Ulster & Delaware RR industrial siding to Ferry street and later trolley lines.
- 12- The U+D RR ticket Office-gone.
- 13- Excess Delaware and Hudson Canal boats
(Rondout was the end of the canal).
- 14- Sleightsburgh (An Imaginary Place).
- 15- Hudson river (heading south).
- 16- U+D RR Paint Shop-later The Trooley museum of NY at Kingston.
- 17- U+D RR Boiler Shop (to the right). Presently: Savannah's.

FEB. 9, 2020
Chester Hartwell

facebook

Friends of the D&H Canal



Eddyville: Some boats were burned when the Canal closed.

79. *Wreck on Jefferson Branch, 1974*, posted by David Buonomo on Facebook on February 12, 2020:



Train derails and blocks mainline

A Delaware and Hudson Railway diesel locomotive took a pilotless trip Friday afternoon which ended in its being totally destroyed.

The journey began near Burnwood, above Herrick Center, at about 2:30 p.m. when it ran away from a D&H pusher crew. The crew was unable to stop it and the wild trip began.

The trip ended two miles north of Simpson when the engine could not negotiate a curve cut into a gorge. There were no injuries.

When the NEWS visited the site Friday afternoon, the train was resting on its side, apparently after sliding about 100 feet from where it initially derailed.

The railroad track on the southbound side was torn up for some distance while the northbound track was only slightly damaged where the engine came to rest.

A railway spokesman at the scene told the NEWS that the engine had been

clocked at 40 to 45 miles an hour during its journey.

Work crews repaired the northbound track, which is the main right of way for the railway, and at 10:30 Saturday morning the engine, valued at \$250,000 to \$300,000, was removed to the Carbondale yard.

Policemen of communities along the route were alerted following the journey's start and crossings along the way were guarded to prevent any injuries as the train rambled on its way.

This measure was taken since the crossing gates in the area are set to operate properly when tripped at a speed of about 30 miles an hour. A faster speed would not have allowed the proper amount of time for the crossing gates to block area roads.

According to D&H superintendent Joseph Cassick, the investigation is continuing.

Silas Robert Powell: We have an original 8 x 10 black and white photograph of this wreck at the Carbondale Historical Society, but never knew anything about the wreck--although our "guess" (which has proved correct thanks to what we have learned from this post by David Buonomo) was that the wreck was somewhere on the Jefferson Branch.

Greg Flynn: The engine in question was the 760, a GE U33C. The unit was shipped from Colonie to Morrison-Knudsen in Boise, ID where it was completely rebuilt and returned to service.

Peter Benham: 760 almost became the first of the D&H U30/33Cs in a rebuilding program. It was the start of a good customer relationship between M-K and D&H.

Tim Lisa: Didn't the brake release at the top of the hill while they were at lunch? I don't remember exactly./.....anyone??.

Tom Jenkins: engine shut down as they got to the top, faulty hand brake, nowhere to eat within miles of Burnwood, Engineer was restricted to yard service, don't remember what the punishment for the flagman was, worked with both of them many times. If I remember, Gerard ODonnell, caught the wreck train the next day, he would know a little more.

Nick Dreimiller: After pushing northbound engine quit, could not reach dispatcher so they drifted to Burnwood using all air. Handbrake not sufficiently engaged. Crew waited on ground to be picked up by work train I had working to the north. While waiting engine headed south.

Greg Flynn: The engine probably wouldn't have suffered quite that much damage if it hadn't hit the stone abutment of the old O&W bridge.

Mike Kelly: Jimmy Sheridan was the engineer. The 760 ran out of fuel after pushing a northbound.

80. *Last Inspection Train on the Pennsylvania Division, October 8, 1980, Little Starrucca*, posted on Facebook on 02-18-2020 by Anthony Stillittano:



Shown below is a photograph “discovered” in the Carbondale Historical Society archives on March 28, 2020. It was posted on Facebook on March 29, 2020 by SRP:

Little Starrucca Trestle: This great photo surfaced recently in some un-catalogued photos in the collection of the Carbondale Historical Society. This may well be the earliest photo that I have ever seen of Little Starrucca. Notice the very early engine (maybe a Baldwin 4-4-0) + a baggage car, a mail car, and three or more passenger coaches. The trestle shown here sure looks to me like it's made of steel. Some people say that when the line opened (1870) that this trestle was made of wood, so a trestle of wood would have to pre-date this photograph.



“Little Starrucca” on the Jefferson Branch of the Erie Railroad

81. The change from “Company” to “Railroad” in the name of the *D&H Bulletins* became effective May 1, 1930:

Facebook post:

R's Trains to Delaware and Hudson Railroad: Facebook, February 19, 2020



“Hope everyone's Wednesday is going fantastic! Here's my old D&H co Railroad Lantern which as you can see is very old! The globe itself is all original with the lantern and with the slight bubbling from the glass you can tell it was hand blown since the D&H didn't really have a glass mold of their logo yet I believe. Since this is an old Adlake lantern I think this was made before 1928 when the D&H went from "Company" to "railroad." [emphasis added] I hope you guys enjoy this little guy!”

Comment by SRP, 6:30 P.M. on February 19:

Silas Robert Powell: The D&H Bulletins, up to and including the April 15, 1930 issue, were titled "The Delaware and Hudson Company Bulletin". The following issue, dated May 1, 1930, is titled "The Delaware and Hudson Railroad Bulletin".

R's Trains: I guess the wiki is a bit misleading then lol! Thank you for the correction Silas!

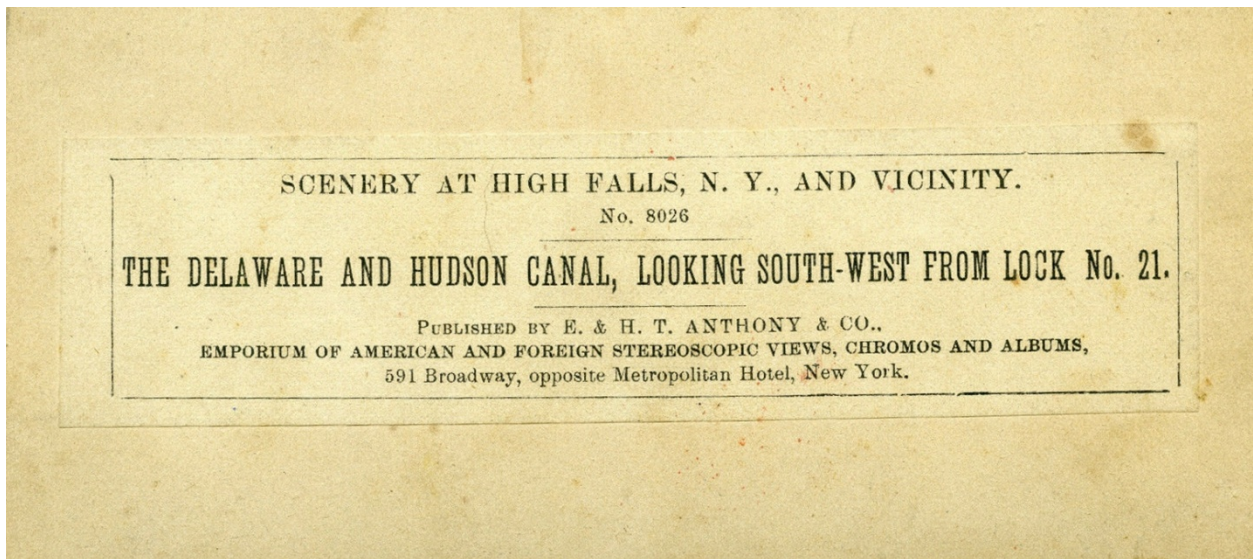
Silas Robert Powell: We're all in this together, working to record and preserve the historical record of the D&H. That's one heck of a nice lantern that you have. Thanks for sharing the great photos.

R's Trains: thank you very much! I recently got this from a friend who passed the lantern on to me since he had no real interest in railroads or anything. I've always been wanting a D&H lantern so bad since I have a Penn central, Nickleplate, NYC and NY.NH &H Lanterns but since I grew up with the ashes of the D&H (after the CP takeover) I've always wanted to preserve anything from my favorite railroad!

82. *Canal Basin, Honesdale*, photo found by Stacy Gardner on E-bay on February 24, 2020:



83. *D&H Canal Lock 21*, E. and H. T. Anthony & Co. stereocard, E-Bay, February 25, 2020:



84. *PCC Passenger Car, August 9, 1959* (slide offered for sale on E-Bay, February 28, 2020:



85. Beautiful photograph (a color slide) of a D&H train + cornfield, Conklin, NY, for sale on E-Bay, 03-01-2020:



SRP: "Shown here is the America in which I was raised."

86. Early history of the steam engine from Will Durant's *The Age of Louis XIV*, 1963, pp.516-518:

VII. TECHNOLOGY

Until the nineteenth century more stimulus was given by industry to science than by science to industry; and until the twentieth century inventions were made less often in the laboratory than in the shop or field. In the most important case of all, the development of the steam engine, the two processes may have proceeded hand in hand.

Hero of Alexandria, in or before the third century A.D., made several steam engines, but, so far as we know, these were used as toys or marvels to

amuse the multitude rather than as mechanisms replacing human energy. Early in the sixteenth century Leonardo da Vinci described a gun which by steam pressure could propel an iron bolt twelve hundred yards; but his scientific manuscripts remained unpublished till 1880. Some of Hero's Greek writings were translated into Latin in 1575, and into Italian in 1589. Jerome Cardan (1550) and Giambattista della Porta (1601) pointed out that a vacuum could be produced by the condensation of steam, and Porta described a machine for using the pressure of steam to raise a column of water. Similar applications of expanding steam were proposed by Salomon de Caus at Paris in 1615 and by Branca at Rome in 1629; and in 1630 David Ramsay obtained from Charles I of England a patent for machines "to raise water from low pits by fire . . . to make any sort of mills to go on standing waters by continual motion, without help of wind, waite [weight?], or horse."⁵⁰ In 1663 Edward Somerset, Marquis of Worcester, received from Parliament a ninety-nine-year monopoly on "the most stupendous work in the whole world"—a "water-commanding engine" that raised water to a height of forty feet;⁵¹ by this mechanism he proposed to operate waterworks for a large part of London, but he died before he could put his plans into effect. About 1675 Samuel Morland, master mechanic to Charles II, invented the plunger pump, and in 1685 he published the first accurate description of the expansive power of steam. In 1680 Huygens made the first gas engine with cylinder and piston driven by the expansive force of exploding gunpowder.

Huygens' French assistant, Denis Papin, went to England, worked with Boyle, and published in 1681 an account of a "digester"—a pressure cooker—to soften bones by water boiling in a closed vessel. To prevent explosion he attached to the top of the vessel a tube that could be opened when the pressure reached a certain point; this first "safety valve" played a saving role in the development of the steam engine. Papin went on to show that the power of expanding steam could be piped pneumatically from one place to another. Moving to Marburg in Germany, he demonstrated (1690) the first engine in which the condensation of steam, producing a vacuum, was used to drive a piston. He suggested the possibilities of this machine for throwing bombs, raising water from mines, and propelling ships by paddle wheels; and in 1707 (precisely a century before Fulton's *Clermont* moved up the Hudson River) he used his steam engine to drive a paddle-wheel boat on the River Fulda at Cassel.⁵² This boat, however, was wrecked, and the German authorities, comfortable in the *status quo*, and perhaps fearing the spread of unemployment, discouraged the development of mechanical power.⁵³

A similar apparatus had been offered to the Navy Board in England about 1700 by Thomas Savery, but had been turned down with the alleged

comment, "What have interloping people, that have no concern with us, to do to pretend to contrive or invent things for us?"⁵⁴ Savery demonstrated his device on the Thames, but the Navy again rejected it. In 1698 Savery patented the first steam engine actually employed to pump water out of mines. In 1699 he was awarded a patent granting him for fourteen years "the sole exercise of a new invention . . . for raising water and occasioning motion by the impellant force of fire; which will be of great use for draining mines, serving towns with water, and for the working of all sorts of mills."⁵⁵ Savery's engines, however, proved costly and dangerous: they had gauge cocks but no safety valves; they were subject to boiler explosions; and though they were used in some mines to pump out water, the mine owners soon returned to the employment of horses.

At this point in the story we again meet Robert Hooke. About 1702, according to a reliable contemporary, he corresponded with a Dartmouth ironmonger and blacksmith, Thomas Newcomen, on the possibility of using the air-pump principle to produce mechanical power. "Could you make a speedy vacuum under your second cylinder," he wrote, "your work is done."⁵⁶ Apparently Newcomen had been experimenting with a steam engine; here science and industry visibly touched. Hooke was skeptical, let the matter drop, and again missed an opportunity. Newcomen joined with a plumber, John Cawley, to build (1712) a steam engine—with rocking beam, piston, and safety valve—that could be trusted to do heavy work without danger of explosion, and with fully automatic control. Newcomen continued till his death (1729) to improve his engine; but we may date from Savery's patent in 1699, and Newcomen's engine of 1712, the beginnings of the Industrial Revolution that in the next two centuries would change the face and air of the world.

87. John Jervis became D&H Chief Engineer, March 4, 1827:

"It was on this day, March 4, in 1827, that Benjamin Wright resigned as Chief Engineer [of the D&H] and his acolyte John Jervis named to replace him. Both men learned canal engineering on the Erie Canal and both made their marks as premier civil engineers in 19th century America." D&H Canal Museum, High Falls, NY.

Photo presented with the post given above:



John Jervis as a Young Man

Two comments on Facebook by S. R. Powell:

1. Two of the giants of American civil engineering! I've never before seen this painting of John Jervis. Thanks for sharing.
2. A few interesting facts about the early engineering achievements of the legendary John Jervis: In October 1817 at the age of 22, Jervis was hired by Chief Engineer Benjamin Wright of the Erie Canal as an axeman in a survey party to locate the canal west of Rome, New York. The role of the axemen was to clear away brush and trees along a "trace" four feet wide. In the spring of 1818, Jervis became a rodman. By the end of 1818, Jervis was promoted to resident engineer in charge of a canal section seventeen miles long and promoted to General Superintendent of the Eastern Division in 1824.

Jervis left the Erie Canal in early 1825 to again work with Benjamin Wright on the Delaware and Hudson Canal Company's transportation system between Carbondale and the Hudson River. In 1827, Jervis became the chief engineer for the Delaware and Hudson Canal Company. The D&H Gravity Railroad that opened on October 9, 1829 was designed by John Jervis.

88. *Jefferson Junction Turntable Site, 2020*; photo from Lynn Conrad, Rail-Trails, March 5, 2020:

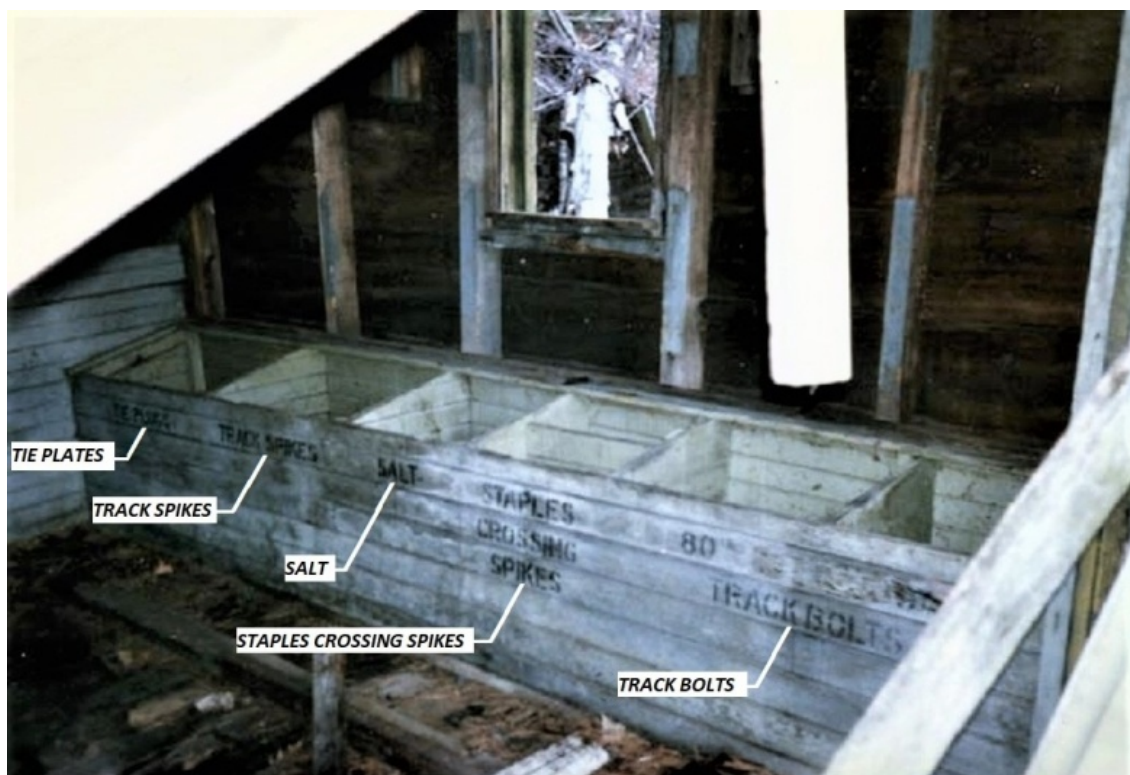


Jefferson Junction Turntable Site, 2020

89. *D&H Canal, Honesdale*, photo posted on Facebook, March 10, 2020, by D&H Canal Museum, High Falls, NY:



90. Section tool house: “Robert, Just in case you ever wondered what might be in one of the section tool houses”; from Stacy Gardner, March 13, 2020:



Picture of the parts storage bin inside of the delapidated section tool house at Thurman.

**D&H RAILROAD
THURMAN, N.Y.
"SECTION TOOL HOUSE"
1997**

91. Joseph Parise, on the D&H Yard:

Joseph Parise, grandfather of Mary Tomaine, in an interview by Joe Datto in March 1976, said:

“In the middle of the D&H Yard there were 84 tracks.”

Mr. and Mrs. Joseph Parise lived at 20 Terrace Street (phone number 37). Mary Tomaine: “I visited Terrace Street often, spent the night, would go there for lunch during high school years. I do have some photos and will bring you some. He was born January 16, 1894 and died July 28, 1988. He loved the color yellow and every Memorial Day, I plant yellow marigolds on his grave site. My grandmother was every bit a genteel woman, who would not allow Italian to be spoken in the home. Her bed making was a work of art including the dribble sheet that would go over the blanket.”

92. "Regular Passenger Service on the D&H Began in 1860" by S. Robert Powell (*BLHS Bulletin*, April 2020, pp. 16-18).

Regular Passenger Service on the D&H Began in 1860

By S. Robert Powell, Ph. D.

In 1859, the first passenger car to be run over the D&H Gravity line in the Lackawanna Valley made a trip from Carbondale to the foot of Plane C in Archbald. The car, we learn from a contemporary newspaper article, was like the cars with the side seats that were used in later years on excursions. A car, loaded two-thirds full with culm and saturated with water to keep it from flying into the passengers' faces, was run in front to give impetus on the levels. Among the D&H officials on this trip was Charles Pemberton Wurts.* The trip to the foot of Plane C, later known as Plane 21, at Archbald, was made in 23 minutes. That time proving satisfactory, passenger cars were ordered to be built.

In November 1859, another experimental passenger run was made on the Gravity Railroad, this time "to the new village of Olyphant." About this run, we learn more from an article titled "Railroad Communication," that was published in the November 12, 1859 issue of the *Carbondale Advance*: **"Railroad Communication.** / We understand a party of our people were favored with a ride upon the extension of the Company's Railroad to the new village of Olyphant. A more general party took a similar excursion on Wednesday, and on Thursday another, including all that had notice, leisure and inclination for the trip. A comfortable passenger car has been provided, well seated, and the trip we learn is made very safely and pleasantly in less than hour." Regular passenger service to the foot of Plane No. 23 was established shortly thereafter, with full loads each way.

Without delay, the D&H then constructed an extension of the Company's Gravity Railroad, about 4 1/2 miles long, from the foot of Plane 23 to a point on the western shore of the Lackawanna River. From that point, to become known as Valley Junction, dual-gauge tracks (Gravity and standard gauge), four miles in length, were laid to Providence. This extension to Providence was completed in February, 1860.

Those four miles of standard-gauge tracks on the western shore of the Lackawanna River were the first embodiment of what would become known as the Valley Road from Carbondale to Scranton. Those four miles of standard-gauge tracks were also the first standard-gauge tracks on the Pennsylvania Division, which would ultimately be extended to the South to Hudson (Mill Creek) and to the North to Nineveh.

The passenger cars to Providence, which were very quickly upgraded by the D&H from the perspective of passenger comfort and warmth, were very popular with the public.

In the February 18, 1860 issue of the *Carbondale Advance*, we read: “. . . the Passenger Cars now run on the Del. & Hud. Canal Co.'s Railroad to Providence, within two and one-half miles of Scranton, have become an established and highly popular institution. They far exceed the most sanguine anticipations. The trip to Providence is a pleasure. The cars are elegant and comfortable, well cushioned and well warmed, and they run by gravity on fair locomotive time. The mails reach us in about one and a half hours from Scranton, and passengers arrive in good spirits, full of praises for the cars. / Depots are about being built here, and every disposition is manifested to provide fully for the convenience of freight and travel."

On April 17, 1860, the following D&H schedule was published: "The Carbondale and Providence passenger trains, until further notice, will run as follows: Leave Carbondale at 6:00 a.m. and 8:30 a.m., and 2:00 p.m. Returning leave Providence at 8:15 a.m., 11 a.m., 4:40 p.m. Omnibuses will be waiting for the conveyance of passengers to and from the trains upon the Del., Lack. and Western and Bloomsburg Railroads. / C. P. WURTS / Supt. D. & H. C. Co."

Regular passenger service on the Gravity Railroad from Carbondale to Honesdale began on April 5, 1877. The fare was 80 cents. There were two trains daily. The first one left Carbondale at 8:15 A.M. and the second at 3:15 P.M. The passenger trains left Honesdale for Carbondale at 7:30 A.M. and 2:45 P.M.

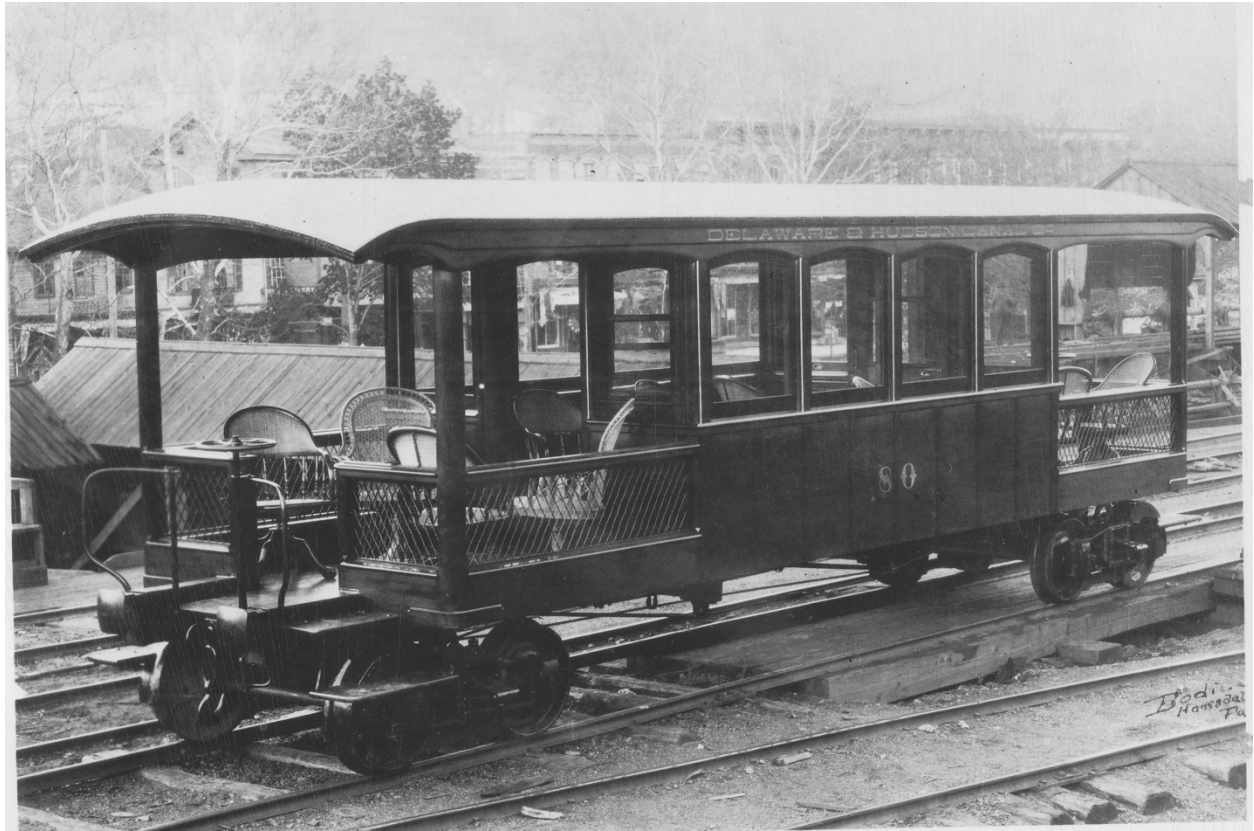
* Charles Pemberton Wurts (1824-1892) was one of the most remarkable D&H officials in the nineteenth century. He was the son of George Wurts, who was a brother of Maurice and William Wurts, the founders of the D&H and of the city of Carbondale. His uncle, John Wurts, who later adopted C. P. Wurts, was the third president of the D&H. In 1854, C. P. Wurts married Laura Jay, great granddaughter of Supreme Court Justice and diplomat, John Jay.

Soon after his arrival in Carbondale in 1843, C. P. Wurts was appointed assistant to James Archbald, the general superintendent of the D&H, serving in that capacity until James Archbald removed to Scranton in 1853, at which time C. P. Wurts assumed entire charge of the D&H's affairs.

C. P. Wurts, who negotiated, brilliantly, the first D&H labor/management confrontation, in 1857, was one of the founders of the Dickson Manufacturing Company, and under his direction the Valley Road (Carbondale to Scranton), and the highly innovative 1859 configuration of the D&H Gravity Railroad were constructed. He served as D&H superintendent until 1864, when Thomas Dickson came onto the scene.

* * * * *

Shown below are the two photos that are included in the above article.



D&H Passenger Car, No. 80: This car was built in the Delaware and Hudson car shops at Carbondale in 1886 under the direction of Thomas Orchard and was used exclusively on the Gravity Railroad as the officers' car. Photo by Bodie, Honesdale; photo in the collection of the Carbondale Historical Society.



D&H Car Shops Interior, Carbondale. Thomas Orchard, architect and Master Car Builder for the D&H from 1862 to 1895, was born in Stratton, Cornwall, England, on February 27, 1820. All of the D&H Gravity Railroad passenger vehicles and a great many standard-gauge D&H passenger coaches (used on the Valley Road) were built under his direction. The gentleman, second from the right, in this early twentieth-century photograph, is very probably John H. Orchard, the son of Thomas Orchard, who succeeded his father as Master Car Builder for the D&H. Passenger coaches such as the ones shown in this photograph were used on the Valley Road and on the Honesdale Branch of the Delaware and Hudson Railroad. Photo in the collection of the Carbondale Historical Society.

For the Record **Regular Passenger Service on the D&H Began in 1860**

by S. Robert Powell, Ph.D.

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8:15 A.M. and the second at 3:15 P.M. The passenger trains left Honesdale for Carbondale at 7:30 A.M. and 2:45 P.M.

Note Charles Pemberton Wurts (1824-1892) was one of the most remarkable D&H officials in the 19th century. He was the son of George Wurts, who was a brother of Maurice and William Wurts, the founders of the D&H and of the city of Carbondale. His uncle, John Wurts, who later adopted C.P. Wurts, was the third president of the D&H. In 1854, C.P. Wurts married Laura Jay, great-granddaughter of Supreme Court Justice and diplomat, John Jay.

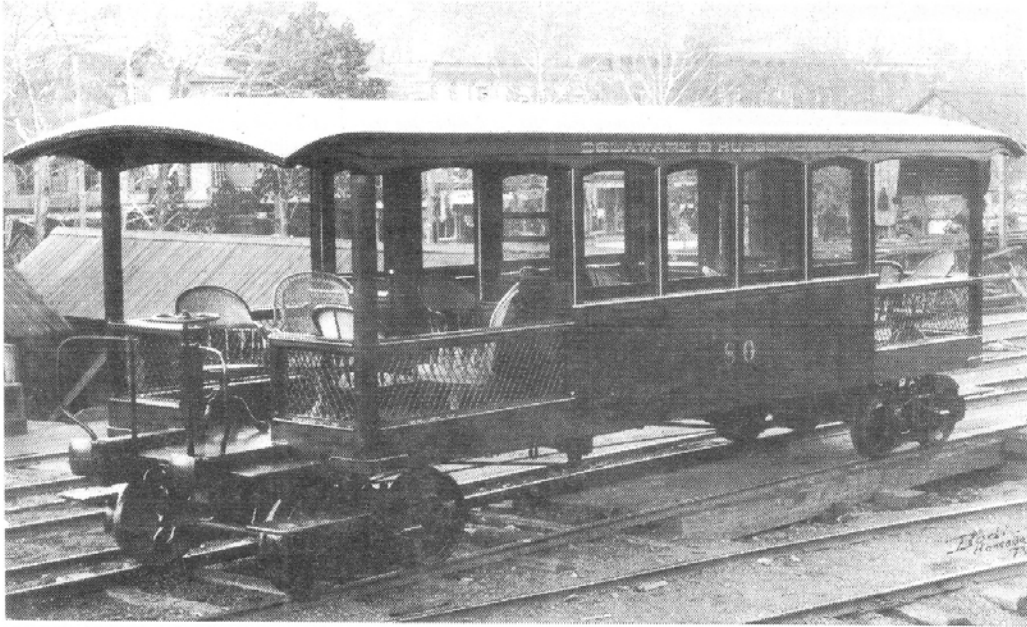
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continued on page 18

Page 17:

Top: D&H passenger car #80. This car was built in the D&H Carbondale car shops in 1886 under the direction of Thomas Orchard, and was used exclusively on the Gravity Railroad as the officers' car. Photo by Bodie, Honesdale, Pa.; photo in the collection of the Carbondale Historical Society, via Dr. S. Robert Powell.

Bottom: D&H Carbondale Car Shops interior. All D&H Gravity Railroad passenger vehicles, and a great many standard-gauge D&H passenger coaches, were built in these shops, under the direction of Thomas Orchard. Mr. Orchard was architect and Master Car Builder for the D&H from 1862 to 1895. He was born in Stratton, Cornwall, England, on February 27, 1820, and about 1841, he began working for the D&H as a pattern maker and builder. He died on December 30, 1895 in Carbondale. Photo in the collection of the Carbondale Historical Society, via Dr. S. Robert Powell.



For the Record from page 16

C.P. Wurts, who brilliantly negotiated the first D&H labor/management confrontation, in 1857, was one of the founders of the Dickson Manufacturing Company. Under his direction, the Valley Road (Carbondale to Scranton) and the highly innovative 1859 configuration of the D&H Gravity Railroad were constructed. He served as D&H superintendent until 1864, when Thomas Dickson came onto the scene.

*In addition to the two photos on the opposite page, Dr. Powell provided a timetable from the April 28, 1860 **Carbondale Advance**. It covered Carbondale - Providence service for the period April 20, 1860 - June 29, 1861. Unfortunately, due to conversion limitations, we could not print that schedule.*

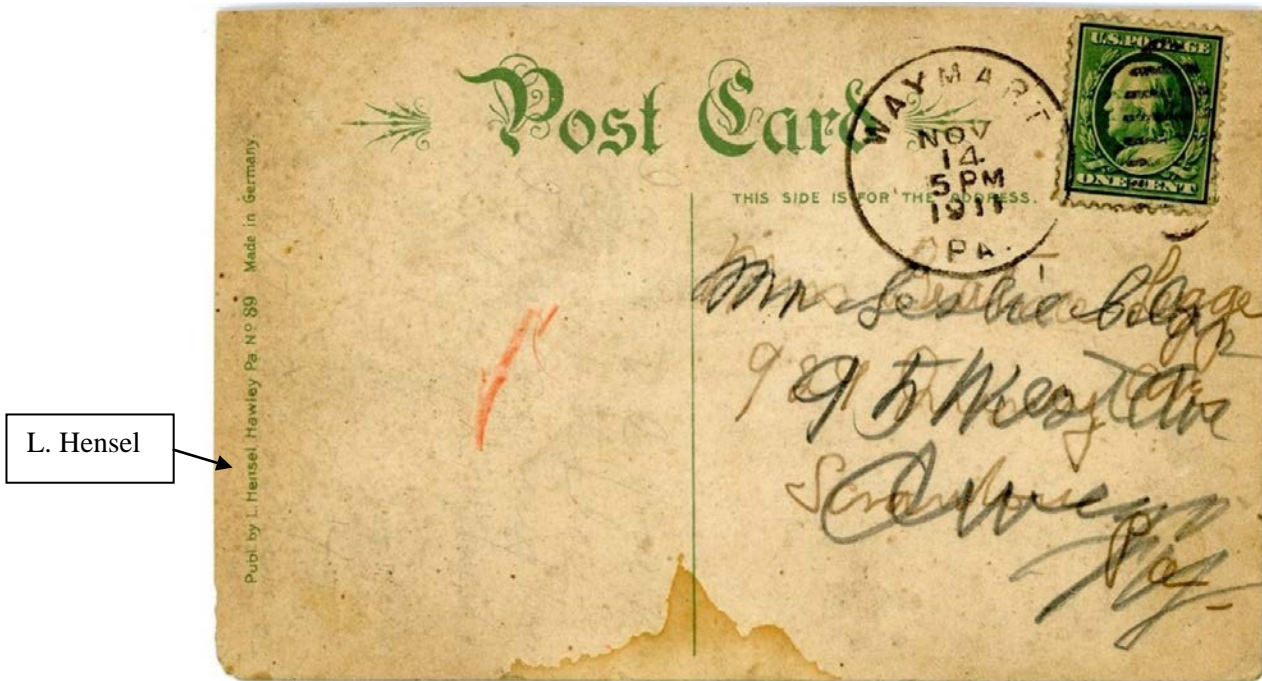
93. Photograph by L. Hensel of D. and H. R. R. Depot, Waymart, WAYNE COUNTY, Pa. Post card offered for sale on E-Bay March 24, 2020:

Very nice photograph. The card is a little rough around the edges, but the quality of the photograph has not been adversely affected in the slightest.

Publ. by L. Hensel, Hawley Pa. N° 89 Made in Germany.



Reverse of post card shown above. Post card mailed November 14, 1911, 5 PM, at Waymart, PA:



94. Carbondale yardmaster's office, from David Buonomo, March 26, 2020:

March 26, 2020

Question about D&H building

David Buonomo

Hello Mr Powell

I hope you are doing ok during this strange period. Please stay safe.

I found the attached photo in an article titled "Big Steam in the Poconos". Certain that this is Carbondale yard, would you happen to have any additional photos of this building? I've never seen it before and would like to see additional perspectives. It appears to be where the yardmaster would have worked, due to the crow's nest, but not certain about that.

No rush at all, and thanks in advance.

Dave



March 26, 2020

Dave:

Nice photograph. Never saw it before. The only photograph of the Yardmaster's Office in the Carbondale D&H yard that we have was taken June 27, 1917 (see photo below of one of the "nationalization" photos), which was many years before the Yardmaster's office in the photo that you have was built. Looks to me like the building in your photo was built on more or less the same site as the building in the 1917 photo.



It's amazing (and wonderful) that new Carbondale D&H yard photos continue to surface.

All is well here. It's the cops and me in City Hall these days. Front door of the building is locked and chained. I'm getting a lot done--mostly D&H research and writing.

Best,

Robert

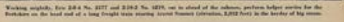
Reply from Dave, March 27:

Thanks for the feedback. That's another very interesting building.

I've attached the entire contents of the article I found. I should have read the article first - the details may be in there but the photo in question was not captioned. I will put a request out to the D&H Facebook group to see if anyone has additional photos of that building.

Dave



[illegible]

31

[illegible]

THE ALL-weather rig and the much faster boat in the water are not supposed to worry much about rain or pollution. After all, we've never seen any evidence in the rain that the 1975 Volvo 440 is the like to move mountains of mud diamonds. The head-end Chaffin or elated gingerly out of the pack, he's been in the water for 10 years, fully packed into the prescribed power steering switches and he's not a dead-end street in the rain. He's been in the water for 10 years, fully packed into the prescribed power steering switches and he's not a dead-end street in the rain. He's been in the water for 10 years, fully packed into the prescribed power steering switches and he's not a dead-end street in the rain.

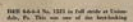
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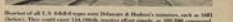
can dig
pilot was
"That
was the
to me
I'll never
get down



to (below) where the morning
into California. D&H took
excavator engines. (Right) Site
excavator from Fleet City on
the gateway through entry.



Scale
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1000



A disillusioned aftermath was waiting most of EMR's 40th anniversary party. The members 4-5-6-7's wanted to see only seven to thirteen years and they probably won't be dry out at California's coastline the day the last left town. Afterward, the members of the 4-5-6-7's wanted to see only seven to thirteen years and they probably won't be dry out at California's coastline the day the last left town. Afterward, the members of the 4-5-6-7's wanted to see only seven to thirteen years and they probably won't be dry out at California's coastline the day the last left town.

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A black and white photograph showing a large steam locomotive pulling several passenger cars through a wooded area. The train is moving along tracks that curve slightly to the right.



thousand) grows
such as this all
like this all
generation was
building com-
-Baron Inc.

20

95. Section tool houses; three photos with labels from Stacy Gardner, March 27, 2020:

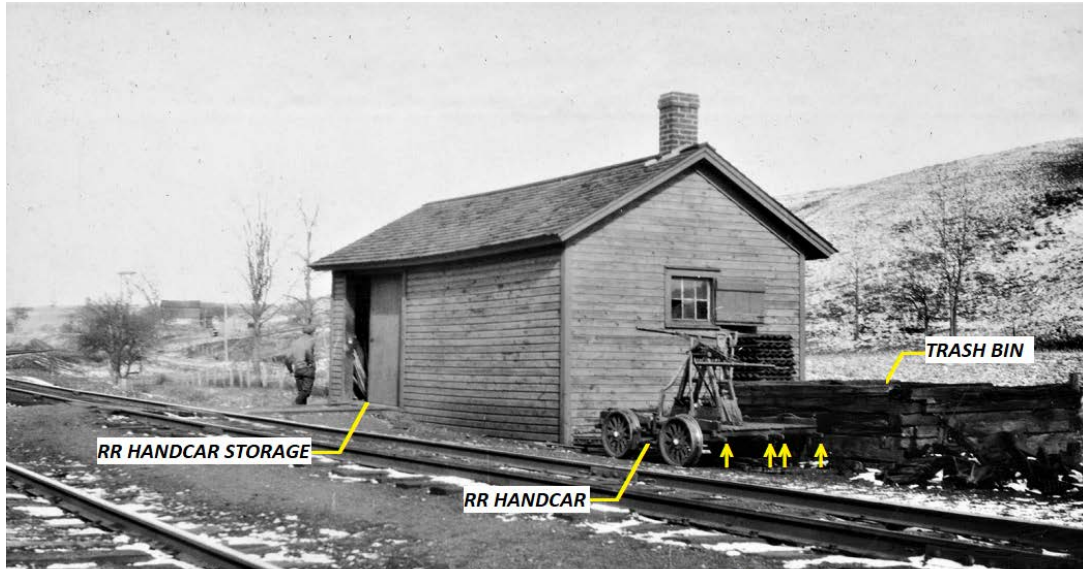


PHOTO COURTESY: BRIDGE LINE HISTORICAL SOCIETY

Shown is a typical "SECTION TOOL HOUSE" located along the line near Center Village. Each house is used to store both tools and equipment needed by the "Section Gang" to do minor repairs to their section of the line. Arrows shown to right point to two sets of handles for two men on a side to lift the handcar.

**D&H RAILROAD
CENTER VILLAGE, N.Y.
"SECTION TOOL HOUSE"
NOVEMBER 26, 1917**

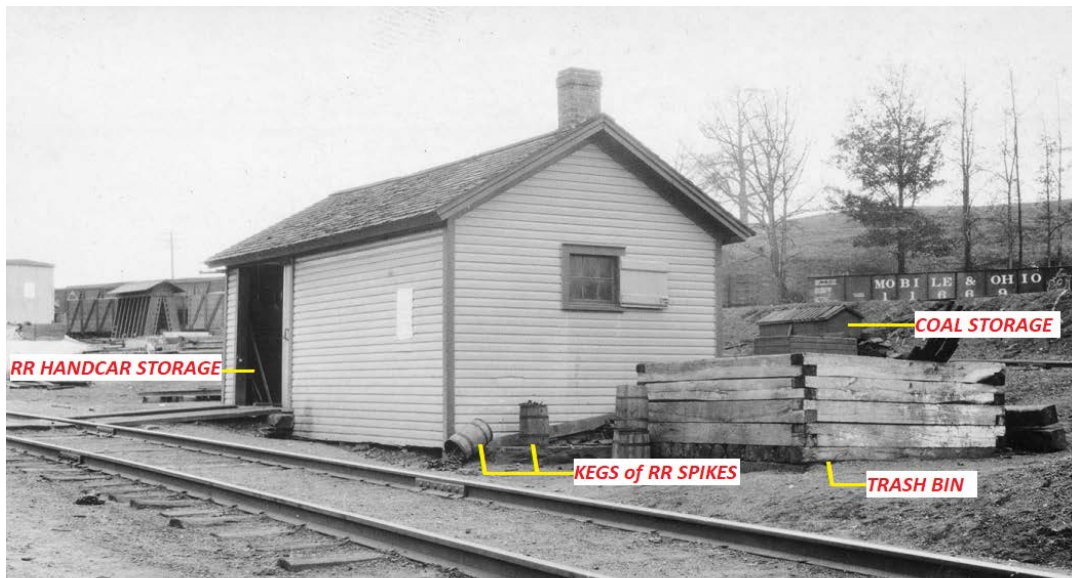


PHOTO COURTESY: BRIDGE LINE HISTORICAL SOCIETY

This tool house is probably located just above the D&H station at Nineveh Junction along the mainline and based on some other images that we've seen it has track access out both side of the building.

**D&H RAILROAD
NINEVEH JCT., N.Y.
"SECTION TOOL HOUSE"
NOVEMBER 9, 1917**



PHOTO COURTESY: BRIDGE LINE HISTORICAL SOCIETY

Jefferson Junction is located along Starrucca Creek just east of Lanesboro, Pa. and next to the Erie Branch of the D&H Railroad. Of note here are the rails leading from the tool house to the tracks for ease of moving the stored handcar onto and off the mainline track and the timber planks that made it easier to get the car over the rail and required less manpower.

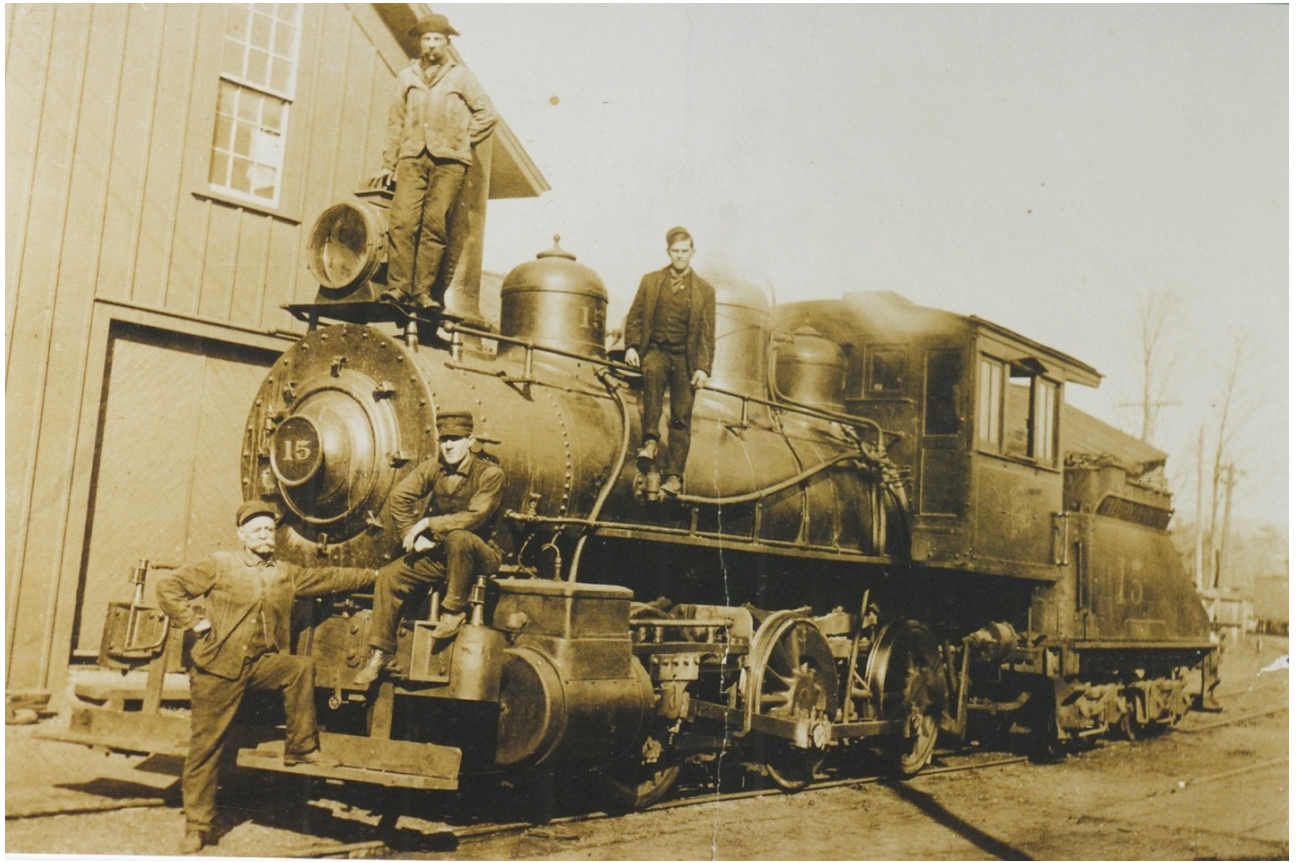
**D&H RAILROAD
JEFFERSON JCT., PA.
"SECTION TOOL HOUSE"
OCTOBER 1, 1917**

96. D&H Engine No. 15: *Willie Olyphant*

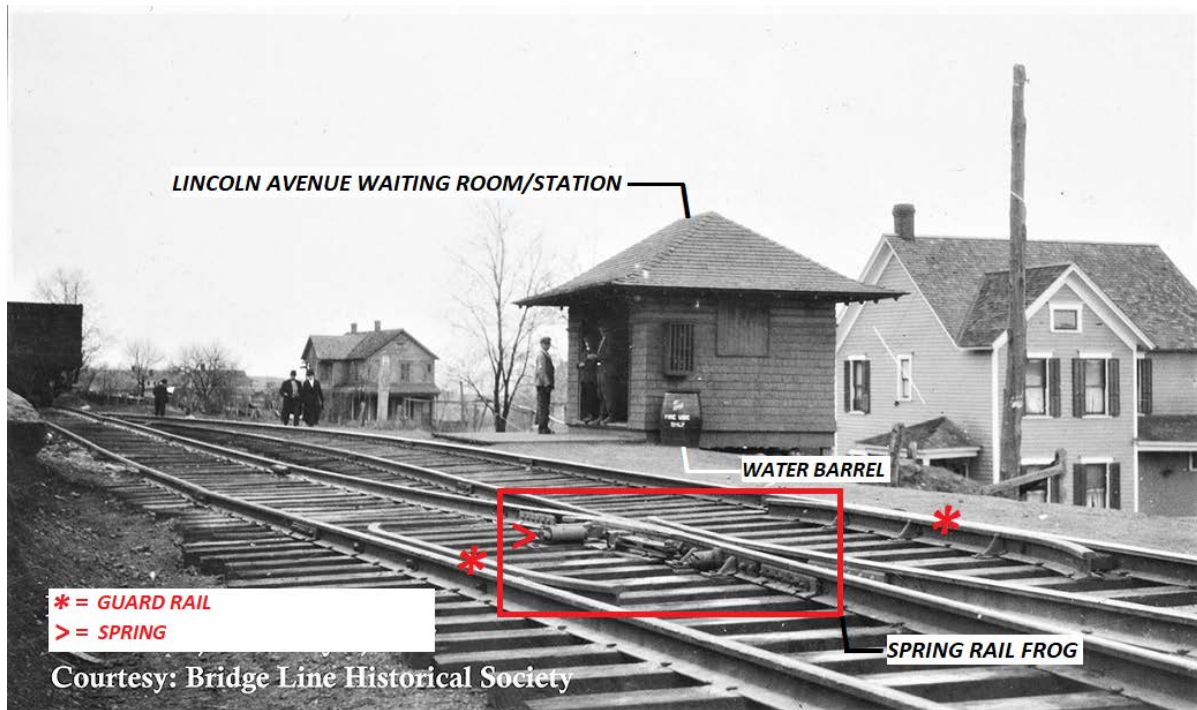
In the February 1, 1934 issue of *The Delaware and Hudson Railroad Bulletin*, p. 29, there is an article titled "Old Locomotives," in which are given the names and numbers of the 60 locomotives that operated on the Pennsylvania Division of the D&H in 1884. This list was compiled by W. E. Anderson of the Engineering Department in Albany and John R. Atherton, Paymaster of The Hudson Coal Company, Scranton, PA.

D&H Engine No. 15 in that list is the *Willie Olyphant*. Engine No. 15 is not listed in the *Roster of Motive Power of the Delaware and Hudson R. R.* by Richard E. Cooper in *Shaughnessy*, pp. 445-470, but No. 16 is, and both are Class B-1a 0-6-0 (Single Cab) Dickson engines.

In the course of some archival work by the president of the Carbondale Historical Society in the holdings of the Society on March 29, 2020, the photograph of the *Willie Olyphant* given below surfaced. This may well be the only photograph in existence of the *Willie Olyphant*. Regrettably, the names of the four railroaders shown on the engine are not known, although it wouldn't surprise me to learn that the well-dressed young man on the right is Willie Olyphant.



97. *D&H Track Technology, Lincoln Avenue Waiting Room/Station*; from Stacy Gardner, March 30, 2020:



View looking southwest at the D&H Honesdale Branch Line's Lincoln Avenue Waiting Room/Station. Of note here is what appears to be a "spring rail frog" the definition of which follows - a frog having a movable wing rail held against the point rail by springs and normally presenting an unbroken running surface to wheels using the main track but operating also to permit the passage of trailing wheels from a diverging track.

Lincoln Avenue

S. Robert Powell <srp18407@gmail.com>

1:36 PM

March 30, 2020

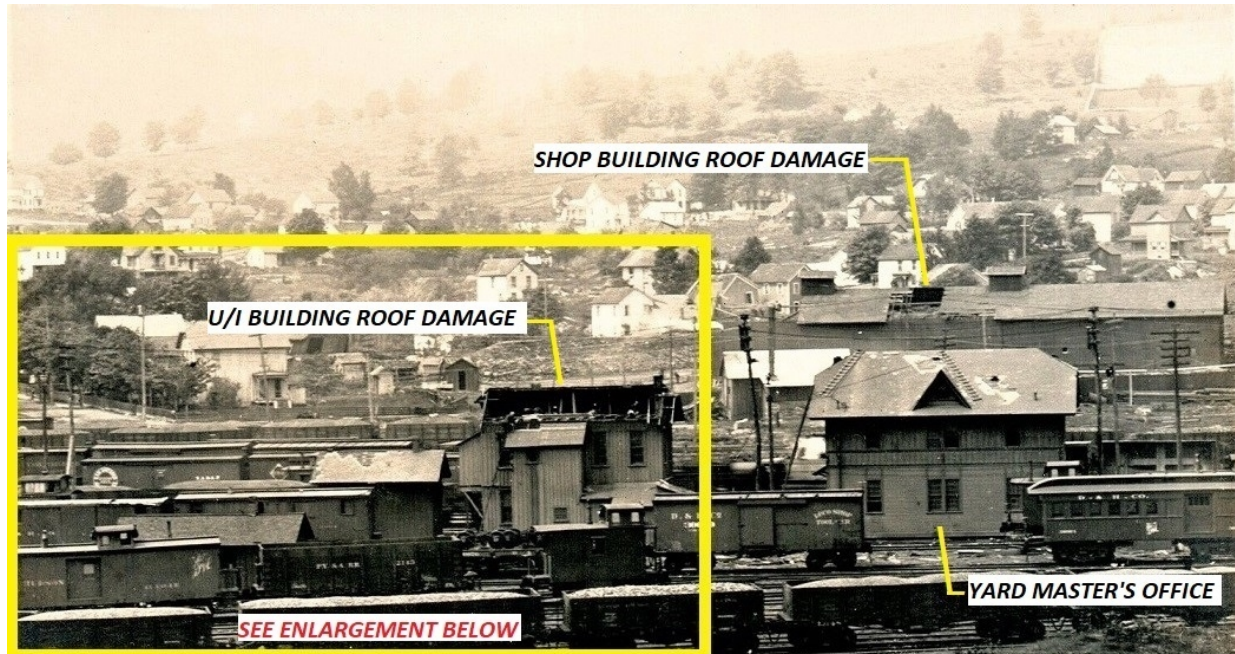
Stacy:

Thanks. Very nice. It's wonderful that you can look at photographs and identify details that no one has ever noticed before. Great material "for the record."

Those D&H construction engineers and builders were on top of their game, so to speak, and gave it their best "for the company": Lots of pride in a job well done in those days. The D&H had

some remarkable folks on their team. It's not surprising, therefore, that the company was the success that it was--from the 1820s right up to the end. SRP

98. Cyclone damage, and two kinds of D&H cabooses; two photos with labels from Stacy Gardner, August 30, 1905:



View looking east across the mid-section of the D&H railroad yard showing some of the buildings damaged by the infamous "Cyclone" that hit the town in the early 1900s. According to some news reports, just about all the houses on Carbondale's west side 42nd Street were damaged or destroyed.

**D&H RAILROAD Co.
CARBONDALE, PA.
"CYCLONE DAMAGE"
AUGUST 30, 1905**



Shown on this enlarged photo taken shortly after the "Cyclone" that hit Carbondale in 1905 are two unique D&H cabooses on a track next to one of the railroad's wreck train - one is a rear cupola "Bobber Style" and the other is a center cupola type with a sliding door. Note: The "Bobber Style" has four wheels and lacks trucks which reduced the amount of steel needed for the caboose, thus lowering the final cost. Also the car got it's name from the way it would "BOB" down the track.

D&H RAILROAD Co.
CARBONDALE, PA.
"UNIQUE CABOOSES"
AUGUST 30, 1905

99. Brotherhood of Locomotive Firemen and Enginemen certificate, Lodge 56, awarded to Thomas M. Murphy:



Certificate, in the collection of the Carbondale Historical Society, that was awarded to Thomas M. Murphy by H. E. Gilbert, president of Lodge No. 56. This fraternal beneficent society and trade union was organized in 1873 as the Brotherhood of Locomotive Firemen. In 1907, it became the Brotherhood of Locomotive Firemen and Enginemen. In 1969 it merged with the Order of Railway Conductors and Brakemen, The Brotherhood of Railroad Trainmen, and the Switchmen's Union of North America to become the United Transportation Union.

We posted the certificate on Facebook with this message: "While organizing some photographs today, I came across this 50-year Brotherhood of Locomotive Firemen and Enginemen certificate. Thomas Murphy probably worked for the D&H. Haven't been able to learn yet in what community Lodge No. 56 was located. Maybe Carbondale. Further research required..."

Within minutes, Joe Klaptach posted these two notices:

November 13, 1897, *Scranton Times*:

Lodge No. 56 was on Church Street in Carbondale:

CARBONDALE

Carbondale, Nov. 13.—The first annual entertainment and social of the Carbondale lodge, No. 56, Brotherhood of Locomotive Firemen, will be held in the Watt building on Church street, Monday, Nov. 22. The committee in charge are making every arrangement to have the affair an unqualified success. No pains or expense will be spared and the public who attend are assured of an excellent time.

The members of Lodge No. 56 were all employees of the Delaware and Hudson Railroad:

March 11, 1907, *Scranton Tribune*:

IMPORTANT EVENT.

Firemen and Engine Men to Entertain Grand Lodge Official.

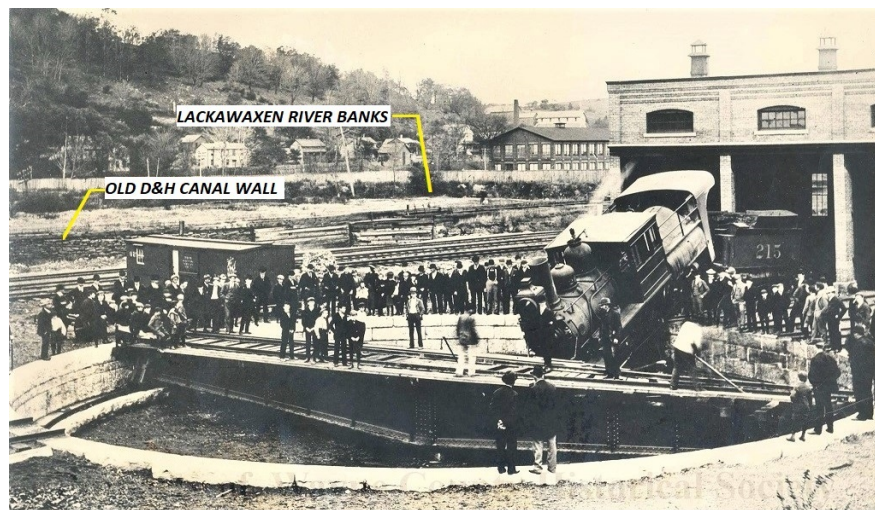
On Monday evening, March 18, an important affair will be carried out in the Watt hall at North Main street and Salem avenue under the auspices of Carbondale Lodge, No. 56, Brotherhood of Firemen and Enginemen. On this occasion Vice-Grand Master Charles A. Wilson, of Phillipsburg, will be present. He will deliver an address and assist in the ceremonies of the evening. The initiation of a large class of candidates will be followed by an entertainment and banquet. The members of this lodge are employes of the Delaware and Hudson company and it is expected that a number of officials of that road will be present. The entertainment will contain many interesting features.

100. Honesdale D&H turntable; three photos with identification labels, from Stacy Gardner, April 5, 2020:



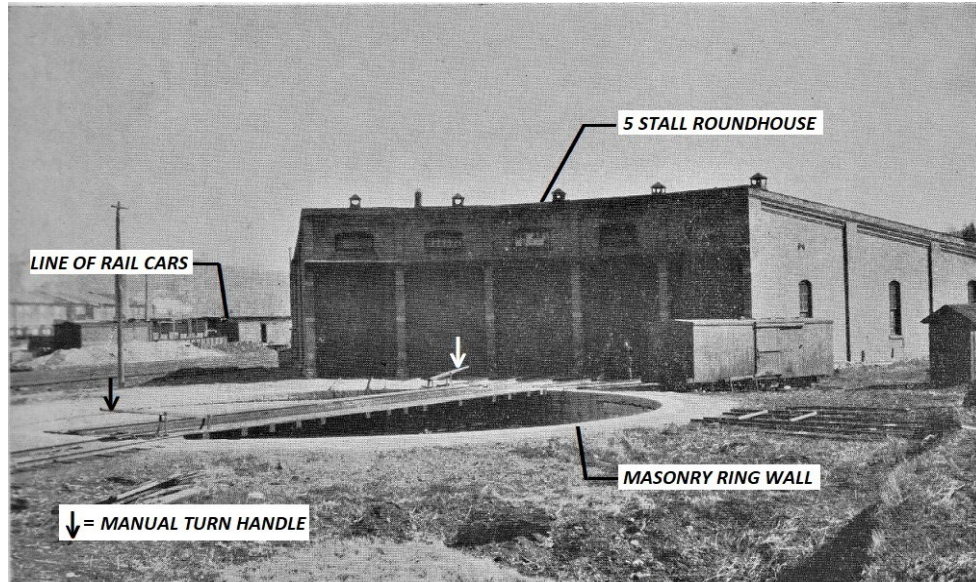
Shown are the locations of the turntable and roundhouse used by the D&H after it began to provide passenger service in Honesdale. Also, shown is the Gurney Electric Elevator Co. which is situated on property that used to be part of the D&H Coal Canal.

**D&H RAILROAD
HONESDALE, PA.**
"ROUNDHOUSE and TURNTABLE"
PENN PILOT PHOTO: 1939



View looking southeast at D&H steam locomotive No. 215 - a Dickson 0-6-0 tank engine built in 1884. As one can see No. 215 missed the turntable, probably while exiting the roundhouse, and ended up derailed in the turntable pit. Some time after the mishap No. 215 was rebuilt and converted to a B-1b Class (double cab) 0-6-0 at the D&H facility at Green Island, New York and renumbered No. 21.

**D&H RAILROAD Co.
HONESDALE, PA.**
"ROUNDHOUSE and TURNTABLE"
CIRCA 1890s

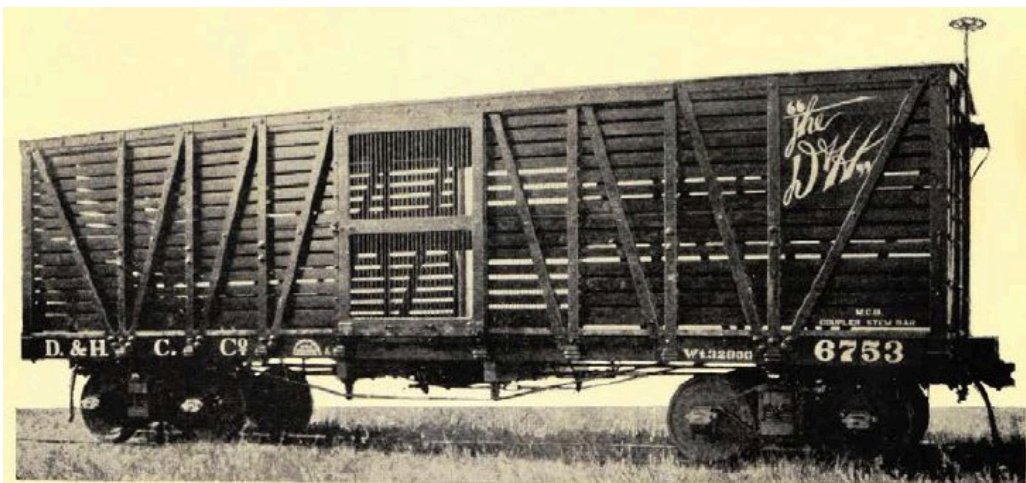


View looking southeast at the manually operated turntable and five stall roundhouse on the southern edge of Honesdale. Based on the location of the rail cars the photo was probably taken sometime after the closing of the D&H Coal Canal and prior to the completed construction of the Gurney Electric Elevator Company in 1905.

D&H RAILROAD Co.
HONESDALE, PA.
 "ROUNDHOUSE and TURNABLE"
 CIRCA 1900

101. D&H Stock Cars; Facebook, April 10, 2020:

[Ben Dibble to Delaware and Hudson Railroad](#)



Stock Car, 50000 Pounds Capacity

Ben Dibble: I thought I should give attribution [on the photo given above]. So I looked up where I thought I had gotten the above photo. And what do I find? There is a stock car on page 127 of Volume 16 of S. Robert Powell's D&H books on the D&H. BUT it isn't the car above! Page 127 shows car # 16348, which is a steel underframe car. The one above is clearly wooden.

What is like especially about Dibble's post is that he refers to my Volume XVI as a reference text/document to be referred to in order to answer a question.

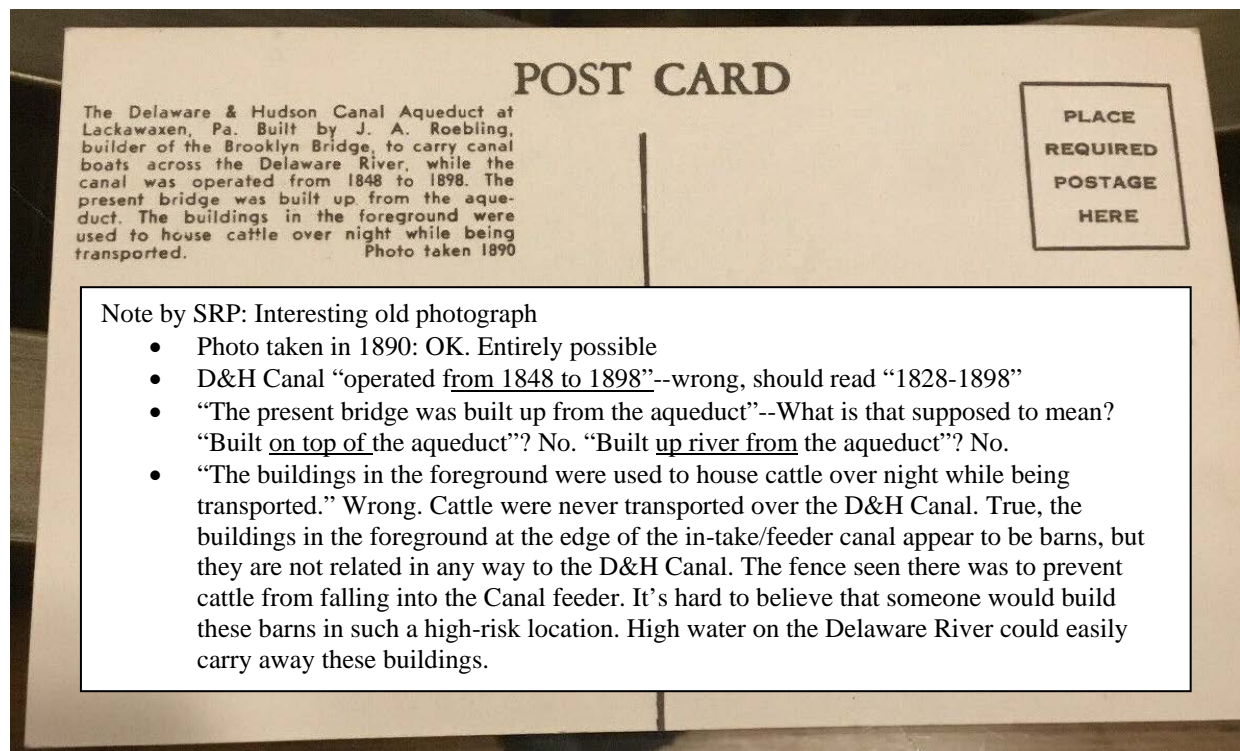
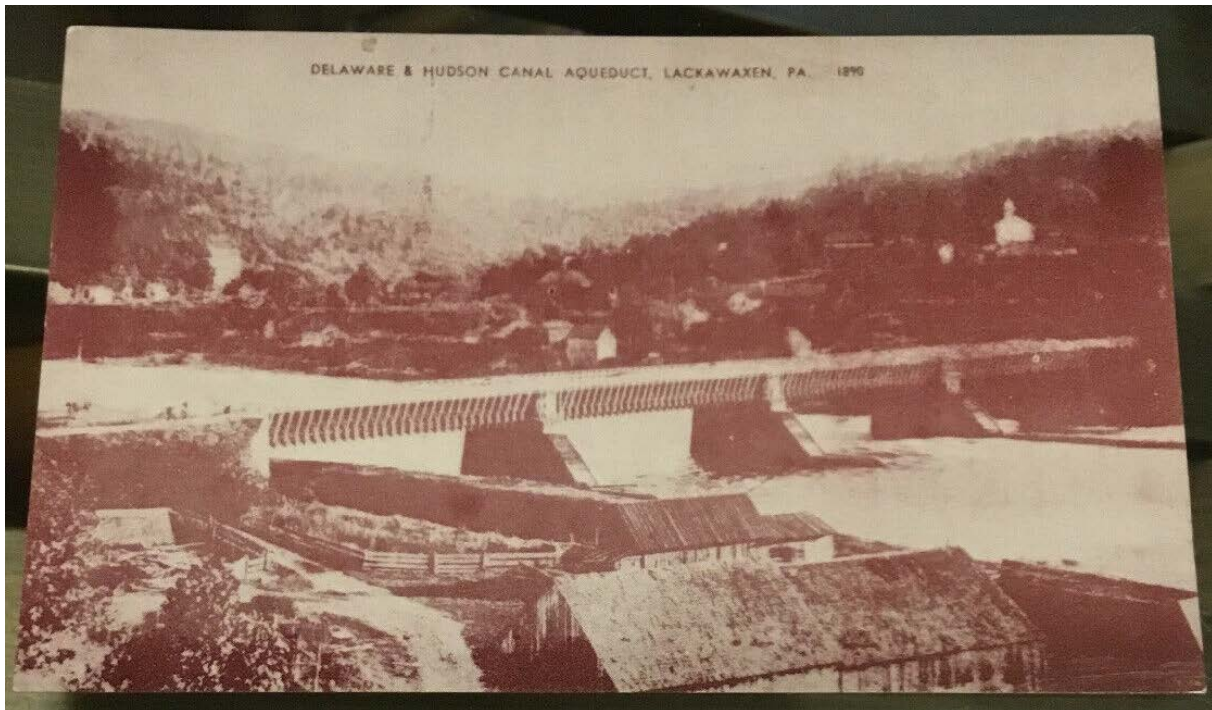
(**Ben Dibble** 1922 ICC info shows 125 stock cars. Numbers are: 16225-16249, (wood underframe & wood body), 16250-16more when I find the above car...) 349 (Steel underframe). More info as I find it. (or if anyone cares...)

Silas Robert Powell Shown above (No. 6753) is one of six wooden underframe stock cars that were built in 1894 for the D&H by Jackson and Woodin Manufacturing Company. The capacity of the car was 50,000 pounds; light weight 32,900 pounds. Each of these cars cost \$488.96. The headquarters of Jackson & Woodin Manufacturing Company, also called Jackson & Woodin Car Works, were in Berwick, PA. In 1899, Jackson and Woodin was merged with twelve other freight car manufacturing companies to form American Car & Foundry Company.

Tim Mayers D&H 16225 posted this photo of 16225: See *SRP Addendum II*, p. 120: this car has cast iron wheel sets and hand operated brakes.



102. Fact or fiction on an old post card; post card offered for sale on E-Bay, April 10, 2020:



The barn shown in the photograph given on the previous page is shown on the map of the D&H Canal at Lackawaxen that is given below from *Coal Boats to Tidewater* by Manville B. Wakefield:

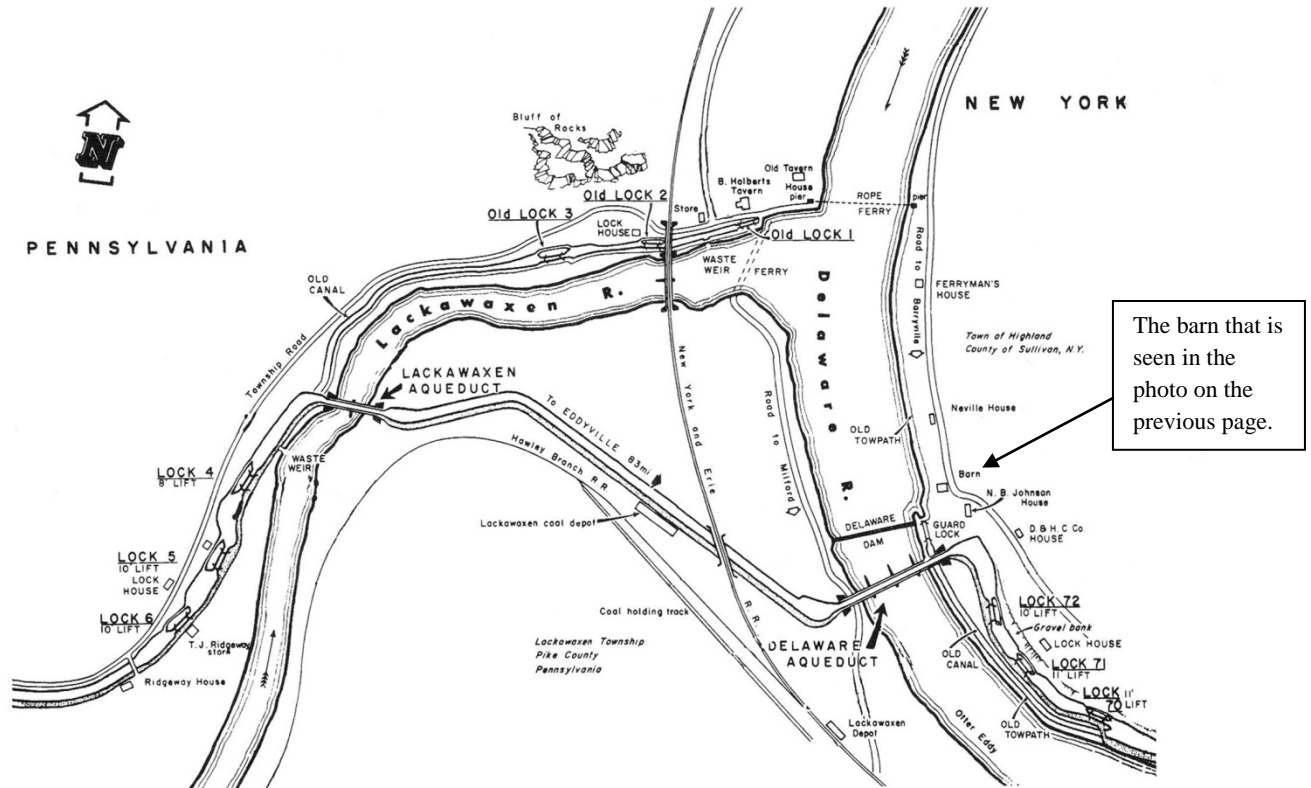


FIGURE 8.—The canal at Lackawaxen, about 1860, showing both the old canal and the new route across the "flats" between the new aqueducts. (Courtesy of Manville B. Wakefield, from *Coal Boats to Tidewater*.)

Post card showing barn beside former D&H Canal in-take canal; photo from Stacy Gardner, April 23, 2020:

Barn beside former
in-take canal on
D&H Canal



Delaware Aqueduct and Erie Train; photo from Stacy Gardner, April 24, 2020:



Erie Lackawanna Railroad diesel locomotive no. 2507 leads freight train over truss bridge spanning the Lackawaxen River in Lackawaxen, Pennsylvania, on October 11, 1964; Photograph by Victor Hand. Hand-EL-C30-002

103. More on Roebling; the material given below was downloaded on April 20-21, 2020, from Facebook:

ROEBLING'S DELAWARE AQUEDUCT



Pennsylvania, United States to New York, United States Completed 1848

“The Delaware Aqueduct provided an important transportation link between the Pennsylvania coal mines and New York's booming industrial marketplace. It is the earliest surviving work of John A. Roebling, who designed the Brooklyn Bridge 30 years later. The cable anchorage system first used on this project was also used on the Brooklyn Bridge. The aqueduct is patterned after Roebling's design of the Pennsylvania Canal over the Allegheny River, and is the oldest metal strand cable suspension bridge still standing in the U.S.

Built as a suspended aqueduct for barges to cross above the Delaware River, the structure was used for this purpose until 1898. The aqueduct was then dewatered and its oak-timber trough was converted to a highway toll bridge.”

Resources:

Harlan D. Unrau, Historic Structure Report, Historic Data Section: The Delaware Aqueduct, United States. National Park Service. Denver Service Center, 1983.

Note by SRP: Unrau's 1983 *Historic Structure Report* (in Minisink Valley Historical Society library) was very useful when I wrote the four articles on the Roebling aqueducts.

The above material was posted on Facebook on April 21, 2020 by Reuben Hull, in response to my post of April 20 about the two Roebling photos shown below.

Reuben Hull

A National Historic Civil Engineering Landmark, designated in 1972.

<https://www.asce.org/project/roebeling-s-delaware-aqueduct>

SRP response: “Thanks for the reference. I am pleased to learn the year of the designation.”

Original post by SRP:

Roebling Aqueducts: There are not a lot of photographs of the Lackawaxen Aqueduct and the Neversink Aqueduct. Both of these photos are in Robert M. Vogel's "Roebling's Delaware and Hudson Canal Aqueducts," published by the Smithsonian Institution Press in 1971. A substantial body of information about Roebling's four D&H Aqueducts can be accessed by going to [InternetArchive.org](https://www.archive.org) and searching for "Delaware and Hudson Canal" or "Delaware and Hudson" or "John A. Roebling" or any of the four aqueducts by name.”



FIGURE 31.—The Lackawaxen Aqueduct, looking northeast toward the Delaware. As at Pittsburgh, Roebling arranged the floor beams and side struts of the Delaware & Hudson Aqueduct trunks into simple trusses that both supported the overhanging towpaths and resisted the side pressure of the water on the trunk walls. (Photograph courtesy of Delaware & Hudson Railway Company.)

SRP: This is the first time that I have ever seen this photograph of the Lackawaxen Aqueduct. This may well be the only photograph in existence in which the icebreaker on the Lackawaxen River pier can be clearly seen.

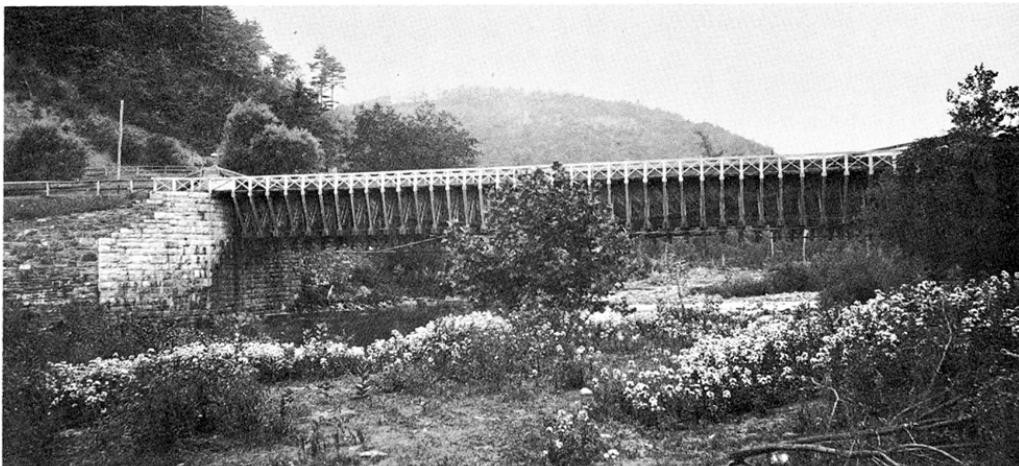


FIGURE 33.—Neversink Aqueduct at Cuddebackville, New York, which had the longest single span of the Delaware & Hudson suspension aqueducts. (Photograph in the Division of Mechanical & Civil Engineering, National Museum of History and Technology.)

SRP: This may well be the only side view of the Neversink Aqueduct in existence. This photo has been reproduced in D&H publications, but never with a note as to the owner/location of the original photograph: "Photograph in the Division of Mechanical and Civil Engineering, National Museum of History and Technology" (i.e., The Smithsonian Museum in Washington, DC). The Neversink Aqueduct was demolished in 1904.

In response to the above post by SRP on Facebook, Tim Granahan posted the following:

Tim Granahan: [19 April at 22:54](#): Thanks for everything you do for the area, especially the historical aspect. / I had a question, regarding the D&H in Scranton. Do you have any sources or images for the D&H in Scranton? I'd love to see images of the station area, internally or views of the rear exterior and yard area and even building blueprints. Or if you know of anyone or a book or website that you might think that has this. / I've seen very limited pictures.

Silas Robert Powell: Thanks. Documents, photos, company records on the D&H in Scranton are hard to find. In the former station on Lackawanna Avenue there must have been a room full of documents, photos, and records that were destroyed when the building was taken down. There are two or three Scranton city map volumes at the Lackawanna Historical Society in which D&H real estate and all the railroad tracks in/out and around Scranton are shown.

104. *Roebling's Delaware & Hudson Canal Aqueducts* by Robert M. Vogel, Smithsonian Institution Press, City of Washington, 1971. This is "Smithsonian Studies in History and Technology, Number 10." Vogel, in 1971, was the Curator of the Division of Mechanical and Civil Engineering in the Smithsonian Institution's National Museum of History and Technology. See the two photographs from that publication that are given in Item 103 above.

Additional material from Vogel's 1971 book:

**ROEBLING'S
DELAWARE
&
HUDSON
CANAL
AQUEDUCTS**



ROBERT M. VOGEL

SMITHSONIAN

* The photo on the front cover given above of the Delaware Aqueduct was taken by David Plowden in 1969 (before NPS restoration of the bridge).



FIGURE 1.—The Delaware Aqueduct, 1970, in the early morning river mists. (Photograph by author.)

The above photograph is a component of the front matter of Vogel's book. What is especially interesting about this photograph is that it was taken before the restoration of the aqueduct by the National Park Service.

About the four Roebling Aqueducts, *Vogel*, pp. 15-18:

p. 15:

Roebling had also developed at Pittsburgh the method used to fabricate the cables and anchor them at their ends. It was used in every bridge he built (except the Smithfield Street), and has been used for major suspension bridges by most of his successors to the present day.¹⁷ The 2,150 iron wires forming each of the Delaware Aqueduct's 8½-inch cables were individually spun in place. Each cable is composed of seven strands.¹⁸ In his *Notes*, Robeling specified varying numbers of wires in the strands:

First strand	270 wires
Second strand	270 wires
Third or center strand	320 wires
Fourth strand	320 wires
Fifth strand	320 wires
Sixth strand	325 wires
Seventh strand	325 wires
Total	<hr/> 2,150 wires

The compacted diameter of the cables without outer wrapping was 8.36 inches, "intended to be 8½ inches." The weight per foot, without wrapping was

¹⁷ Roebling patented the system after its successful application on the Pittsburgh Aqueduct (United States Patent 4945, 26 January 1847), *Apparatus for Passing Suspension Wires for Bridges Across Rivers, &c.*

¹⁸ Roebling, *Notes* (326).

122.74 pounds, and the total length of each cable, 576 feet. Each strand was formed by carrying the wires across from anchorage to anchorage, over the saddles, in a bight of two wires at a time carried by a traveling sheave, so that at each anchorage a loop was formed which passed over a cast-iron strand shoe, pinned to the anchor bars, anchoring the strand. The strands are thus actually skeins formed of a single, continuous wire, spliced at the ends.¹⁹ Between the towers the seven strands were compacted into cylindrical form, virtually solid, then varnished and served with a continuous wrapping of iron wire for protection from the weather. Where they splay out between the abutment towers and the anchor bars, however, the strand loops are exposed to view, clearly showing their formation as they join the strand shoes (Figures 20–23). Although photographs of the aqueducts in use show wood guards over these sections, the loops would still have been subject to a certain amount of condensation and other moisture. The exposure to the weather of so much area of such small-diameter strands, without wrapping, is in odd discord with Roebling's consistent advocacy of solid, single cables, with the interior wires protected overall by the envelopment of a close wrapping. It was, in fact, on this very point that he inveighed most critically against Charles Ellet, a contemporary and sometimes rival suspension-bridge builder, and other members of his school. Ellet favored, rather, cables composed of many small, separate wire bundles, because, he claimed, with a solid, wrapped cable it was impossible to so spin the individual wires that each carried its proportional share of the total load. Unwilling to encase any wires in masonry because of the difficulty in achieving the positive airtight seal needed to prevent corrosion, and aware that the stress on these back-span sections was less than on those carrying the suspenders, Roebling seems to have been satisfied to depend for weather protec-

¹⁹ At that early stage in its history, Roebling's wire-rope firm was not yet drawing its own wire (in fact, was not for another year to move to Trenton, its eventual seat, where it ultimately grew into a major industrial enterprise). The wire for the bridge cables, as for general wire-rope production, was purchased from the few United States drawers and from importers of European wire. Roebling drew on at least three firms for the great quantities needed in the two aqueducts at Lackawaxen, the bulk of the wire being received in the first nine months of 1848 while the cable spinning was in progress.

tion upon the varnish and oil coating of the individual wires and on a heavy coating of the completed loops.

Tests made on samples of the cable wire removed from the High Falls Aqueduct, when it was finally dismantled in 1921, were reported by H. C. Boynton, a metallurgist at John A. Roebling's Sons Company.²⁰ The ultimate tensile strength was 94,166 pounds per square inch, well above Robeling's design requirement of 90,000. The condition of the wire at the time was described as slightly pitted but generally good, despite long exposure. Almost fifty years of additional exposure, without any protection, has taken its toll, for specimens recently gathered—surviving no doubt because of the site's remoteness—are badly pitted and unable to stand the bending test specified by Roebling for acceptability of wire.

Another of Roebling's principal reasons for favoring the solid wire cable was that it added considerably to the overall stiffness of the suspended structure in its resistance to the dangerous oscillations caused by gusting winds under certain conditions. Here again, this effect would have been of no consequence in the aqueducts' short, unloaded back spans between the end towers and anchorages, where there were no suspenders.

The anchor bars were carried down through the anchorage masonry, terminating in six-foot-square cast-iron anchor plates upon which the masonry bears, its dead weight resisting the pull of the cables. Roebling calculated the ultimate strength of the pair of cables at 3,870 tons and the stress on them (and thus on the anchors) from the loaded trunk at 770 tons.

While Roebling would not embed cable wires in masonry, he made a practice of doing so with his anchor bars, from the Pittsburgh Aqueduct on. By pouring a thin cement grout around the bars he felt confident of completely excluding air and moisture, assuring total freedom from corrosion. When the Pittsburgh Aqueduct was taken down in 1861, seventeen years after its abutments had been laid up, Roebling made a careful examination of all the iron in the structure. "The cement was solid to the iron, no trace of Rust."²¹

²⁰ H. C. Boynton, "Bridge Wire Tested After 75 Years," *The Iron Age*, volume 121 (9 February 1928), page 400.

²¹ *Notes on Suspension Bridges* 1860 (271).

The difference in the four span lengths of the aqueduct has been a matter of occasional speculation. The span lengths, from the Pennsylvania to the New York sides, are:

<i>By the original design</i>	<i>Shown by Roebling as built, in "Notes" (326)</i>	<i>As measured, August 1969</i>
142'-0"	141'-9"	141'-5"
131'-0"	131'-0"	131'-4"
131'-0"	131'-0"	130'-10"
131'-0"	131'-5"	131'-6"
535'-0"	535'-2"	535'-1"

The three spans closest to the New York shore are all so close to 131 feet that the present differences are obviously the result only of construction discrepancies and the shiftings of age and long service. The original design did indeed call for equal lengths of 131'-0". But what of the odd 142-foot length of the first Pennsylvania span? That, too, is specified as early as 27 February 1847 in Lord's rough sketch (Figure 9), which is the earliest mention found on the subject of the aqueduct's relationship to the site. The correspondence between them does not make it clear whether Roebling or Lord made the basic determination of the span lengths. Undoubtedly they conferred during the Pittsburgh visit and perhaps reached a joint conclusion. That, however, does not answer the initial question. Although Lord obviously had far greater knowledge of the site conditions, his sketch shows a relatively level riverbed, with no particular circumstances on the Pennsylvania side that would have led to a span variation there. In a (presumably) later refined sectional drawing of the river and masonry (Figure 10), however, Roebling clearly *does* show a slight rise in the surface of the river bottom at the first Pennsylvania pier, and it was probably to take advantage of the shallower water at that point that the pier was placed there. Had the adjacent abutment been located farther out into the stream to make that span also 131 feet, it would have projected so far beyond the bank as to form an impediment to the flow of river and ice during high water.

The Other Aqueducts

In addition to the two aqueducts at Lackawaxen, the overall widening of the canal necessitated the replacement of two existing major aqueducts, over the Neversink at Cuddebackville and over Rondout

Creek at High Falls near the canal's eastern terminus, both in New York. Both were part of the original construction, the Neversink Aqueduct a two-span timber truss designed by Jervis,²² and the High Falls Aqueduct—the only one referred to by its place name rather than the stream-crossing name—a two-span, stone-arch structure.

From the time of his arrival at Lackawaxen, if not earlier, Roebling was considering that aspect of the improvement project and, by 28 December 1847, with his work on the first two aqueducts barely under way, he submitted the following proposals to Lord for the replacement structures:

Never Sink Aqueduct one span of 170 ft in the clear, diameter of cables 9 $\frac{3}{8}$ inch, all stonework and rock excav to be done by Cy, myself to do all wood & iron work	\$25,000
Never Sink 2 spans of 90 ft each in the clear Cables 6 $\frac{3}{4}$ inch	\$18,000
High Falls one span 120 ft in the clear Cables 7 $\frac{3}{8}$ "	\$16,500 ²³

Although both structures were to have the same trunk dimensions and follow the general plan of the two Lackawaxen aqueducts, two major differences were proposed. The Neversink River at the aqueduct site could be reduced to no less than 170 feet between abutments. A single span would thus have been appreciably longer than even the 142-foot-long span of the Delaware Aqueduct, Roebling's longest to date except for the lighter Pittsburgh spans. He thus made the dual proposal for the crossing in both one and two spans, but strongly recommended the latter as cheaper, for even the added cost of the center pier would not have approached the \$7,000 difference between the two schemes. In fact, he maintained that because of the greatly reduced mass of the anchorage masonry on both banks, even with the center pier the total masonry cost would not exceed that for the single-span plan, and might possibly be less.²⁴ (See Appendix V on page 42.)

[Text continues on page 23]

²² Malcolm A. Booth, "Roebling's Sixth Bridge, 'Neversink,'" *The Journal of the Rutgers University Library*, volume 30, number 1 (December 1966), page 13.

²³ *Suspension Aqueducts . . . Febr. 1847.*

²⁴ *Ibid.*

THE DELAWARE AQUEDUCT ANCHORAGES, CABLE CONNECTIONS, AND SADDLES

The method employed by Roebling to anchor the suspension cables at their ends and resist the great stress imposed by them on the anchorage system was in general based upon European practice, but with two significant improvements. The principal of these was the solid encasement of the iron anchor chains in cement grout to exclude air and moisture and thus prevent rusting. European engineers traditionally left open galleries around the chains and anchor plates to *permit* air circulation and, more importantly, inspection and painting. The soundness of the Roebling plan is reflected in the top anchor link at High Falls, thoroughly intact after being embedded in the masonry for at least seventy years. (Figure 37).

The other departure was placement of a solid timber grillage between the anchor plates and the superincumbent masonry mass, to act as a slight cushion between them and evenly distribute the stress between

the two unyielding surfaces. Roebling patented the system after applying it on both Pittsburgh structures (United States Patent 4710, 26 August 1846). The timber, well below the water table, was not susceptible to rot.

The radial thrust of the chains, as they change angle from vertical at the anchor plates to the back span angle, is borne by a series of stone blocks set into the abutment side walls. The projection of these is seen in Figure 21, and in the ruins of the Neversink Aqueduct south anchorage in Figure 39. (See also Figure 46.)

Equal stress in all the anchor chain links in a section was obtained by drilling their eyes simultaneously, in a pile, to ensure equal length. (Drawing, courtesy of Rensselaer Polytechnic Institute; photographs, June and November 1969 for the Historic American Engineering Record and the Smithsonian Institution.)

Lackawaxen Aqueduct:

p. 27 in *Vogel*:

NUMBER 10

27

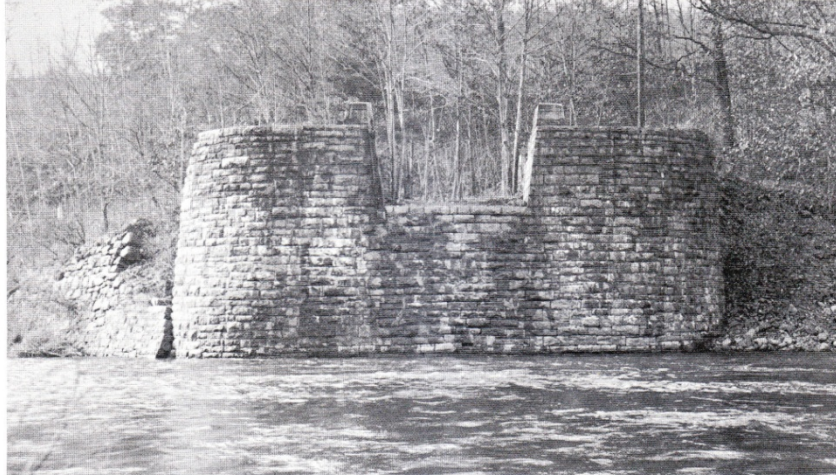


FIGURE 34.—Remains of the Lackawaxen Aqueduct. Only the west abutment survives, the east abutment and the midriver pier having been entirely demolished for the conveniently located supply of cut stone. (Historic American Engineering Record and the Smithsonian Institution.



Shown here is the cover photo on SRP's *Addendum II*. This photo I found on the Internet among a collection of un-identified canal photographs. It wouldn't surprise me to learn that this photo was taken circa 1971, when Vogel's book was written.

II

Comparative Data on the Four Delaware & Hudson Aqueducts*

	<i>Delaware</i>	<i>Lackawaxen</i>	<i>High Falls</i>	<i>Neversink</i>
Number of spans-----	4	2	1	1
Center-to-center span length (feet)-----	(see page 17)	114.37	145	170
Number of cables-----	2	2	2	2
Diameter of cables (inches)-----	8½	7+	8½+	9½
Total number of wires in each cable (see page 15)-----	2150	1624	2300	2880
Weight of cable per foot (pounds)-----	122.75	90	125.7	170
Weight of water in one span at 6'-6" depth (tons)-----	489 (142-foot span)	424	538	632
Working tension on both cables (tons)---	771	552	790	998
Ultimate tensile strength of both cables (tons)-----	3870	2900	4100	5200
Roebbling's contract price-----	\$41,750.	\$18,650.	\$20,400.	\$24,900.
Cost per foot of sus- pended trunk (see page 10)-----	\$78.00	\$82.00	\$141.00**	\$146.00**

*Mostly from *Notes* (326), various pages.

**The per-foot cost of Neversink was greater because of the larger cables and anchorage iron-work, a function of the higher price normally paid for a longer than for a shorter span.

105. Roebling's Use of Local Stone in the D&H Aqueducts: Letter, August 7, 1851, from R. F. Lord to L. A. Sykes:

Bill Merchant, March 28, 4:07 P.M.

Hi Robert-

I am working on an article and came across this letter. It seems to confirm your suspicion that Roebling specified Shawangunk conglomerate for the towers.

Bill Merchant (he/him)
Deputy Director for Collections, Historian & Curator
D&H Canal Historical Society
historian@canalmuseum.org
917-821-4134

"Office Del and Hud Canal Co Honesdale August 7, 1851

L. A. Sykes Esq

My dear Sir,
The Wire Suspension Aqueduct over the Delaware River, for the Delaware and Hudson Canal, and which connects the County of Pike in Pennsylvania with the County of Sullivan in New York, was built during the years 1847 & 1848 – This work was erected for the purpose of avoiding the delay formerly experienced in crossing the Delaware River through a Pool above the Dam, and has materially improved the facility and safety of the navigation – There have been three other Wire Suspension Aqueducts subsequently erected on the Delaware and Hudson Canal as follows –
Over the Lackawaxen River in Pike County Pennsylvania, completed in 1849 -
Over the Neversink River in Orange County New York, completed in 1850 –
And over the Rondout Creek in Ulster County New York, completed in 1850 –
They are constructed on the plan of the Pittsburgh Suspension Aqueduct, a structure which has proved eminently successful and was the first of its kind in the world – designed and executed by John A. Roebling Esq Civil Engineer of the City of Pittsburgh –

After an examination of this work by R. F. Lord Esq. Chief Engineer of the Del and Hud Canal, a contract was entered into with Mr Roebling for the erection of the Superstructure of those on the Delaware and Hudson Canal –

The trunks are composed of timber and plank, well joined and caulked and suspended to two wire Cables one on each side – The Cables rest in heavy cast iron saddles. which are placed on top of small stone towers of about 4 by 6 ft base, rising 4 to 5 ft above the tow path – There is a towpath on each side of the trunks –

[Russel F. Lord now quotes from an article that was published in the "American Railroad Journal" of July 7, 1849, which is given on pages 50-51 in the September 1983 *Historic Structures Report / Historical Data Section / The Delaware Aqueduct*, by Harlan D. Unrau, a copy of which is in the Library of the Minisink Valley Historical Society.]

The towers are each composed of 3 blocks of a white quartz, pudding stone, of great hardness and durability, obtained from the Quarries in Ulster County, N. Y. – The masonry of the piers and abutments, which support the little towers, has been executed in the most substantial manner : for the Delaware and Lackawaxen Aqueducts of a durable and compact greywacke, which constitutes the principal foundation formation of the valley of the upper Delaware – The Neversink & Rondout of white quartz, pudding stone that abounds in Ulster County – The beds of the face stone are all cut, the backing is large and well bonded and the whole laid in hydraulic cement – Nothing has been spared to insure the safety of the foundations, and by the construction of good ice breakers, to guard the piers against the heavy ice floods, which in the Delaware River prove sometimes very violent & destructive –
[end of quoted material from 1849 article]

The Cables are made in one length across the Rivers, from abutment to abutment, and connected at their ends with Anchor Chains manufactured of solid, wrought iron, in bars of from 5 ft to 10 ft long, & 5 to 6 inches wide by 1¼ inch thick – The lower end of each chain is secured to a heavy cast iron anchor plate of 6 feet square which supports the foundation of a large body of masonry whose weight resists the strain of the Chain and Cable – As the Cables are protected against oxydation by a copious varnish and paint, and closely encased by a tight wire wrapping, which gives

← Anchor Chains: wrought iron bars, from 5 to 10 feet long, and 5 to 6 inches wide by 1 1/4" thick

them the appearance of solid spindles – They may be considered
 indestructible – The woodwork is subject to decay, however it will
 last longer in these works than a in a common timber structures, and can
 be renewed any portions of it independently at any time –
 The following table exhibits the principal dimensions
 and quantities of the Delaware Aqueduct –
 Hydraulic Cement Masonry in Abutments Piers & Anchorage 7.688 Cubic Yards
 Length of Aqueduct with Extensions 600 feet
 Number of Spans 4
 Length of Span varies from 131 to 142 feet
 Width of Trunk at Water Line 19 “
 Depth of Water 6 “ 6 inches
 Weight of Water between Abutments 1.950 Tons
 “ ” ” in one Span 487½ “
 Diameter of Wire Cables 8 ½ inches
 Length of Wire weighing 1 Lb 17 ½ feet
 Number of Wires in each Cable 2.150
 Total Weight of Cables & Anchor Chains 190.000 Lbs
 Ultimate Strength of each Cable 1.900 Tons
 Lackawaxen Aqueduct
 2 Spans, from Centre to Centre of Abutment 114 Each
 Trunk 17 ft 6 in wide on bottom and 19 ft 1in at
 top water line -----
 Weight of 6 ft depth of water 388 Tons
 Weight of 6 ½ ft “ ” 424 “
 Page 238
 Tension of Cables resulting from 6 ½ ft 552 Tons
 Number of Cables 2
 Diameter of Each 7 inches
 Number of wires in Each Cable 1624
 Weight of 17 ft of single wire 1 Lb
 Ultimate strength of Cables 2.900 Tons
 Neversink Aqueduct
 1 Span, from Centre to Centre of Abutment 170 Feet
 Weight of 6 ft depth of water in Trunk 580 Tons
 Weight of 6 ½ “ ” 632 “
 Tension of Cables resulting 998
 Number of Cables 2
 Diameter of Each 9 ½ inches
 Number of Wires in Each 2.880
 Ultimate Strength of Cables 5.200 Tons
 High Falls Aqueduct

Span from Centre to Centre of Abutment measures 145 feet
Prism of water 6 ft deep is 17 ft 6 in wide on bottom
and 19 ft 1 in on top -----

Weight of 6 ft depth of water 494 Tons

“ “ 6 ½ “ 538 “

Tension of Cables resulting 790 “

Number of Cables 2

Diameter of Each 8 ½ in

Number of Wires in Each 2300

Length of Wire weighing 1 Lb 17 ft

Ultimate strength of Cables 4.100 Tons

The foregoing is taken from my memorandums and
will, I think, convey the information desired in your letter of 6th inst, and
asked for my Honl A. C. Flagg – I have twice carefully examined the
Wire Suspension Aqueduct over the Alleghany River and the Suspension Bridge
over the Monongahila River at Pittsburgh and we have had the Delaware and
Lackawaxen Aqueducts in use two years full seasons, & those over Neversink
& Rondout nearly two years – from the most careful attention & inspection
of all the above structures, I am decidedly of the opinion that the
plan as designed and executed by John A. Roebling Esq secures the best
combination of woods and iron that has ever been effected for works

Page 239

of the kind – both in regard to economy and durability – With
the exception of wooden trunk (which may be economically made
with plate iron) all the important portion of the work will last it
may be said – an indefinite period

Very truly Yours

R. F. Lord Engineer &c

Del & Hud Canal

Roebling and Local Stone

S. Robert Powell <srp18407@gmail.com>
to Bill

Sat, March 28, 7:05 PM

March 28, 2020

Bill:

Wonderful letter, August 7, 1851, from R. F. Lord to L. A. Sykes. I am very pleased to see and to
have a copy of the letter. Thank you.

Even though I have not seen that letter, I am familiar with data reported by Lord in that letter (about conglomerate rock) because Lord is there quoting material that is contained in an article that was published in the "American Railroad Journal" of July 7, 1849, which is given on pages 50-51 in the September 1983 *Historic Structures Report / Historical Data Section / The Delaware Aqueduct*, by Harlan D. Unrau, a copy of which is in the Library of the Minisink Valley Historical Society, which I read on August 22, 2019, and which I cite in my article on Roebling's use of conglomerate rock in the four D&H aqueducts ("Use of Conglomerate Rock in the Delaware and Hudson Canal and Gravity Railroad, Part 2," *Bridge Line Historical Society Bulletin*, January 2020, pp. 16-18).

You can well imagine my excitement when I came across that material in *Unrau* about the kinds of conglomerate rock used by Roebling in the aqueducts.

Thanks again for the copy of Lord letter of August 7, 1851.

Best,

Robert

106. "It Wasn't Only Anthracite Coal That Was Transported on the D&H Canal" by S. Robert Powell (*BLHS Bulletin*, May 2020, pp. 15-16, 30):

For the Record

It Wasn't Only Anthracite Coal That Was Transported on the D&H Canal

by S. Robert Powell, Ph.D.

Many people believe, incorrectly, that (1) it was only D&H Canal boats, loaded with anthracite coal, that moved down the D&H Canal from Honesdale and Rondout; and that (2) all of the boats traveling up the D&H Canal from Rondout to Honesdale were empty D&H coal boats. That is clearly not the case. Let's take a closer look.

Many millions of tons of anthracite coal were shipped down the D&H Canal, in D&H boats, in the period 1829-1899, to be sure. In addition, however, a vast quantity of other commodities and merchandise, in addition to a great many passengers, were transported between Honesdale and Rondout, and between Rondout and Honesdale, in the period 1829-1899.

Consider the following selected announcements that were published in various newspapers in D&H territory in the 19th century:

On August 27, 1829, J. & G.W. Ross announced in the *Dundaff Republican, and Canal & Rail Road Intelligencer* that they were in the freight business on the Hudson River and on the Delaware and Hudson Canal. "One of their sloops", they noted, "leaves Eddysville, (the outlet of the canal) and the foot of Dey Street, New York [City], every Thursday. And they have made arrangements on the Canal as enable them to deliver freight at Honesdale (or any other point on the Canal), with safety and expedition, and at rates much lower than has been heretofore done".

On October 7, 1829, two days before the opening of the Gravity Railroad from Carbondale to Honesdale, the D&H inaugurated packet service (regularly scheduled service, carrying freight and passengers) between Honesdale and Rondout, with two boats - *Silas Wright, Jr.* and *Luther Bradish* - making three trips weekly.

In the following year, June 16-23, 1830, Philip Hone, together with a large party of friends, traveled from New York to Honesdale to Carbondale over the D&H Canal (traveling on the *Silas Wright, Jr.*) to Honesdale, and then over

the D&H Gravity Railroad to Carbondale. (Philip Hone made a second visit to Honesdale and Carbondale in August of 1831, this time traveling on the *Luther Bradish* on the D&H Canal, and on the D&H Gravity Railroad from Honesdale to Carbondale.)

In 1830, the Honesdale Temperance Transportation Line announced that it had twelve good boats and a sufficient number of good horses and careful boatmen to operate its transportation line on the D&H Canal.

In 1833, Washington Swart's announced regular freight and passenger service on his "River and Canal Line," between Honesdale and New York City. In his ad, in the *Northern Pennsylvanian*, Thursday, February 21, 1833, p. 4, Swart's announced that he had purchased the two D&H canal packet boats (*Silas Wright* and *Luther Bradish*) that were the pioneer packet boats on the D&H Canal in 1829.

Swart's River and Canal Line also made it known that their accommodations for the transportation of freight were considerably improved and enlarged. That same line reported at the time that it had two good and substantial sloops, which would sail in the following order: One sloop will leave Rondout every Friday, and one leave New York City every Saturday. In addition, Swart's announced that he had chartered the *Steamboat Hudson*, for the carrying of both freight and passengers, which would sail from Rondout every Tuesday and Friday at 2 o'clock P.M., and from New York City every Wednesday and Saturday at 5 o'clock. He also announced that he had extended his business by the purchase of two canal boats, *Silas Wright* and *Luther Bradish*, which were constructed for packet boats and covered, and so arranged as to prevent any species of merchandise from the effect of bad weather. One of the said canal boats departed from Rondout and Honesdale every Tuesday.

In 1833, Cornell (Peter Cornell) & Gedney's (John B. Gedney) Delaware and Hudson Canal Transportation Line an-

nounced that they would continue freighting and forwarding from their old stand, opposite the Tide Water Lock at Eddyville, known as Freer's Landing. They also announced that they had two substantial sloops, commanded by experienced men, which would ply between Eddyville and New York City. In connection with the above, they declared that they had two canal boats for the transportation of merchandise and lumber to and from Honesdale.

In 1833, Isaac Cock's "Delaware and Hudson Canal Transportation Line" announced that they were prepared to do freighting, forwarding, and storage on the D&H Canal. In addition, they declared that they had made arrangements with the freighters, on the Hudson River, and upon the Delaware and Hudson Canal, and that they were now prepared to make contracts for the transportation of merchandise, from New York City to Carbondale, by the ton or otherwise.

In 1837, in a space ad in the March 7 issue of the *Northern Pennsylvanian*, the Union Transportation Line on the North River announced that they were prepared "to transact all Freighting and Commission business with accuracy and dispatch", having purchased three fast sailing sloops (*Orange Packet, Michigan, and Chatham*) on the Hudson River, and that "Canal boats will always be in readiness, at the Store House at Wilbur, to receive Freight from the sloops and steamboat, for the Canal, and deliver the same to any place between Kingston and Honesdale. Goods will be forwarded to Carbondale and the bills for the freight through from New York City to Carbondale, to be paid at Carbondale, where the goods are consigned".

In the spring of 1858, Cornell, Bidwell & Co.'s Steam Freight Line declared that they were prepared to receive freight for Carbondale, and all points in the Lackawanna Valley between Carbondale and Wilkes-Barre.

In the spring of 1852, Coe F. Young bought from Major Cornell a half interest in his canal freight line between New York and northeastern Pennsylvania. In

1857, Coe F. Young moved to Honesdale, and in 1862 he became the sole proprietor of the firm of Thomas Cornell & Co., which he operated alone for seven years (until 1864), when he sold the line to the D&H. On January 1, 1864, Coe F. Young was named Superintendent of the D&H Canal, and sold, therefore, his D&H Canal freight line at that time.

And so it becomes clear from the data – which is only a sampling of known information on packet service on the D&H Canal and on D&H Canal freight lines, up and down the D&H Canal, 1829-1887; for additional data on the question, see the author's Volume XV: *Locomotives and Roundhouses*, pp. 398-432 – that it was not only loaded and empty D&H coal boats that were transported between Honesdale and Rondout, and between Rondout and Honesdale, in the period 1829-1899. What was in those "other" boats on the D&H Canal?

We can gain a clearer understanding of what was in those other boats that moved up and down the D&H Canal in the 19th century if we look now, for example, at the publicly announced "Rates of Toll on the Delaware and Hudson Canal for 1859", which was published in the March 5, 1859 issue (p. 3) of the *Carbondale Weekly Advance*:

"RATES OF TOLL on the DELAWARE & HUDSON CANAL for 1859 / Boats going from Tide Water not to carry Cargoes Exceeding SIXTY TONS. [Produced and published by the] OFFICE DEL. & HUD. C. CO., February, 1859.

Articles per Ton per Mile: The first column shows the rate per mile, subject to special contract. The second column shows the highest charge for any distance not exceeding 60 miles, when the Rules and Regulations are complied with. The third column shows the highest charge for any distance not exceeding 108 miles, when the Rules and Regulations are complied with. The fourth column shows the legal rates in cents per ton per mile on the capacity of the Boat.

The charges in each column (*see note 1*) for the articles listed below are given in the public notice, but will not be reported here. The intent is to make known that it was not just anthracite coal – going down the D&H Canal from Honesdale to Rondout, with empty coal boats going up the D&H Canal from Rondout to Honesdale – that was shipped

on the Canal.

- ☛ Merchandise, Dry Goods, Iron and Nails up the Canal, Steel, Marble, Mill and manufactured stone, and Cotton in bales and bags, Liquors, Passengers' Baggage, and Furniture
- ☛ Molasses, Sugar, Pot and Pearl Ashes, and Iron Castings
- ☛ Salt and Salted Provisions
- ☛ Flour, Meal and Grain, except Oats
- ☛ Leather and Hides
- ☛ Tanners' Bark, Fire Brick, Fire Stone, materials for Glass ware Crates, and Charcoal
- ☛ Pig Iron, Plaster - Paris, Pressed Hay, Potatoes, Apples, Common Brick down Canal; Stone, Iron Ore, Potters' Clay, Ashes, Lath, Fence Posts, Rails, Hoop Poles, Staves, Heading, and Oats
- ☛ Nails and Iron, down Canal
- ☛ Hydraulic Cement going from tide water
- ☛ Hydraulic Cement, in stone or manufactured, going towards tide water, on the capacity of the boat, for first four miles, four cents per ton, thence
- ☛ Glass-ware, down Canal
- ☛ Broken Glass, for manufacturing, up Canal
- ☛ Common Brick, up Canal
- ☛ Anthracite Coal, up New York section of Canal, on the capacity of the boat
- ☛ Anthracite Coal, up Pennsylvania section of Canal, on the capacity of the boat
- ☛ Anthracite Coal, down New York section of Canal, on the capacity of the boat, unless by special contract
- ☛ Anthracite Coal, down Pennsylvania section of Canal, on the capacity of the boat, unless by special contract
- ☛ Bituminous Coal
- ☛ Manufactures of Wood, Window Glass, and Soda ash, and Salt for manufacturing Glass
- ☛ Articles not enumerated
- ☛ All articles of Rafts
- ☛ Boards, Plank, Scantling, and all Sawed Lumber in Boats, per 1000 feet Board Measure, per mile
- ☛ Pine, plain Maple, Basswood, Ash, Oak, Cherry, Whitewood, and Chestnut
- ☛ Hemlock
- ☛ Curled and Speck Maple, and all unenumerated Timber in Boats, per 100 Cubic feet per mile

- ☛ Ship Timber
- ☛ Pine, plain Maple, Ash, Oak and Chestnut
- ☛ Curled Maple, and all unenumerated
- ☛ Shingles in Boats per 1000 per mile
- ☛ Pine
- ☛ Hemlock

- ☛ In Rafts: Boats are to have a preference over Rafts in passing the Locks.
- ☛ All Boards, Plank, Scantling and Sawed Lumber, per 1000 feet, board measure, per mile in rafts
- ☛ All Timber, per 100 cubic feet per mile
- ☛ All Shingles, per 1000 per mile
- ☛ Wood, per Cord per mile

- ☛ Wood, in Boats, per Cord per Mile
- ☛ For the first 5 miles, (then for every additional mile 1 cent)
- ☛ Packets and Pleasure Boats carrying Passengers, on the capacity of the boat, per ton per mile
- ☛ Mileage on Boats laden or empty, per mile on the Boat

☛ N.B.: When toll is charged on the capacity of the Boat, no additional charge will be made for mileage of said Boat. Mileage on Boats engaged in the Coal business, when carrying other freight than Coal, will be charged at the rate of two mills per ton per mile, when the quantity of said freight is less than 5 tons, and full mileage when said freight exceeds 5 tons.

For much additional information on the tariff of tolls on the D&H Canal, 1828-1859, see Volume XV (*Locomotives and Roundhouses*) in the author's D&H series, pp. 433-461.

It was not, then, just anthracite coal that was shipped east through the D&H
continued on page 30

Page 17:

Top: D&H (former B&M) RS3s 1508 and 1536 with a northbound *Adirondack*, location not noted. Ca. October 1974 photo and caption by Bob Bahrs.

I thought both ex-B&M RS3s had the same number board arrangement; clearly, they did not....JB

Bottom: D&H PA 16 is the sole power on a northbound passenger run, complete with an "Amtrak" dome car, outside Mechanicville, N.Y.; ca. September 1976. Caption and photo by Bob Bahrs.

end of the tunnel to ascertain if there were others in the place.

Meanwhile, the fire gained such headway that Federal troops from the nearest barracks were sent to fight it. They reached the tunnel the next day and rescued the little party holed up there, who had got mighty discouraged.

MEANWHILE, smarting under the defiance of his authority as engineer, Red Gaffney had promptly filed a report charging Fireman James Shaw with insubordination and the destruction of company property, namely a locomotive. But his charges didn't stick. In fact, they boomeranged against him. The story of Jimmy's doings soon spread over the entire division, and when it leaked out that Gaffney had turned him in, the kind of welcome shown to Red by the rest of the gang took on the attributes of an icicle suffering from ague.

As soon as I could get a man to relieve me, I laid off for a round trip and went to Missoula, where Jimmy was hospitalized. I wasn't in a good state of mind to visit a hospital. Still, I had to get it out of my system. So I eased myself into Jimmy's room real quiet like, but the tallpaw spotted me at once.

Jimmy asked me a thousand ques-

"He came right in here", Jimmy informed me, "and said he couldn't begin to thank me for what I had done, and a lot of stuff like that. Told me not to worry about the 2107 burning up, as he would attend to that business, but" - Jimmy's eyes glistened as he spoke - "that wasn't the best thing he said!"

"And what was that?, I gasped.

"You have," I agreed weakly, and I must have had a worried look, "but didn't he say anything about Dorothy?"

"Oh, that?" Jimmy smiled again.

"Those rumors about her vanishing are a lot of baloney. Dorothy and I were married in this very room two days ago. So you, too, thought she'd gone off with Gaffney?" He chuckled audibly. "Well, she didn't. Right now my little bride is on the south side of this city, fixing up the home her uncle gave us for a wedding present".

Reprinted from the January 1966 *Railroad* magazine.



Canal from Honesdale to Rondout in the 19th century. Many millions of tons of anthracite coal were shipped down the D&H Canal in the period 1829-1899, to be sure. However, in addition, a vast quantity of other commodities and merchandise, as well as a great many passengers, in passenger packets and pleasure boats, were transported via the D&H Canal from Honesdale to Rondout during that same period. At the same time, a wide range of products and commodities (e.g., hydraulic cement, salt for manufacturing glass, common bricks, broken glass for manufacturing, merchandise, dry goods, iron and nails, marble, mill and manufactured stone, cotton in bales and bags, liquors, passenger baggage, and furniture), as well as many passenger packets and pleasure boats, went up the D&H Canal from Rondout to Honesdale in the period 1829-1899.

Note 1: Due to computer format translation errors, we could not properly reproduce the 4-column chart referred to above. However, the extensive list of commodities, taken from what was left of the table, speaks for itself. For more detail, we encourage you to purchase the volumes mentioned above from the author via the Carbondale Historical Society (see "Swap Shop" column). The volumes are amazingly thorough and extensive.



April 30: I sent a copy of the above article to Bill Merchant and he replied:

“The Canal Company reserved the right to send up to 3 tons back on the boats and testimony in PA Coal [the D&H/PCC lawsuit] makes it clear that the captains that took cargo back finished the season in a better state, i.e. with more \$ in their pockets, than the ones who didn't! It is my understanding that non-coal boats only made up 10% of the traffic but they sure moved a lot in those boats, plus the coal boats whose captains worked harder and filled the largely empty boat on the return trip.”

April 30

Bill:

Pleased to know that you enjoyed the article.

Thanks for the pdf of my article and for your note. Very interesting. I didn't know that the captains could solicit material/cargo for the return trip, etc.

Until I did that article, I never knew that lumber rafts were hauled through the canal.

[Comment from Bill: They would have been small rafts! 9' x 75' and later 14 1/2' by 90'... odd shaped rafts- I had never read that either. They actually widened the top of the early boats to take advantage of the wider Canal in the early 1850s, as well as hiping the sides- I guess like a wider bin on the top...? This from PA Coal.]

What most of the DHTHC group do not do is research on the history of the Canal. Most of the group believe, erroneously, that "everything that can be said has been said." As you and I surely know, the research and the digging and the organizing is a never-ending process.

Robert

107. *D&H Challenger No. 1522 at the Head of a Northbound Train, at Stillwater*, photo posted on April 30, 2020, on Facebook by Alan Furler who did not know the location of the site where the photo was taken.

SRP note: It pleases that I recognized the site and made the post that I did. Four others (including Walter Kierzkowski-- who is an amazing railroad authority, especially on the O&W) have agreed with me.



Alan Furler

My dad, Donald Furler, took this D&H photo. The Challenger is No. 1522. Regrettably, the location is not documented. It appears to have been taken from an overpass or bridge. Does anyone recognize the spot? Any help would be much appreciated!

Silas Robert Powell

Possible location: Northbound train. Photo taken from the automobile bridge over the D&H tracks at the south end of Stillwater Reservoir.

Geoff Ross

1522 was a Penn Division engine. I agree with Dr Powell [emphasis added by SRP] that this photo was taken along the Lackawanna River near Stillwater Lake. The engine is on the upgrade track, as it is clearly lighter in color because of the sand needed for traction on the steep grades. This would have been the northbound track at this location.

Gerard ODonnell

Forest City maybe

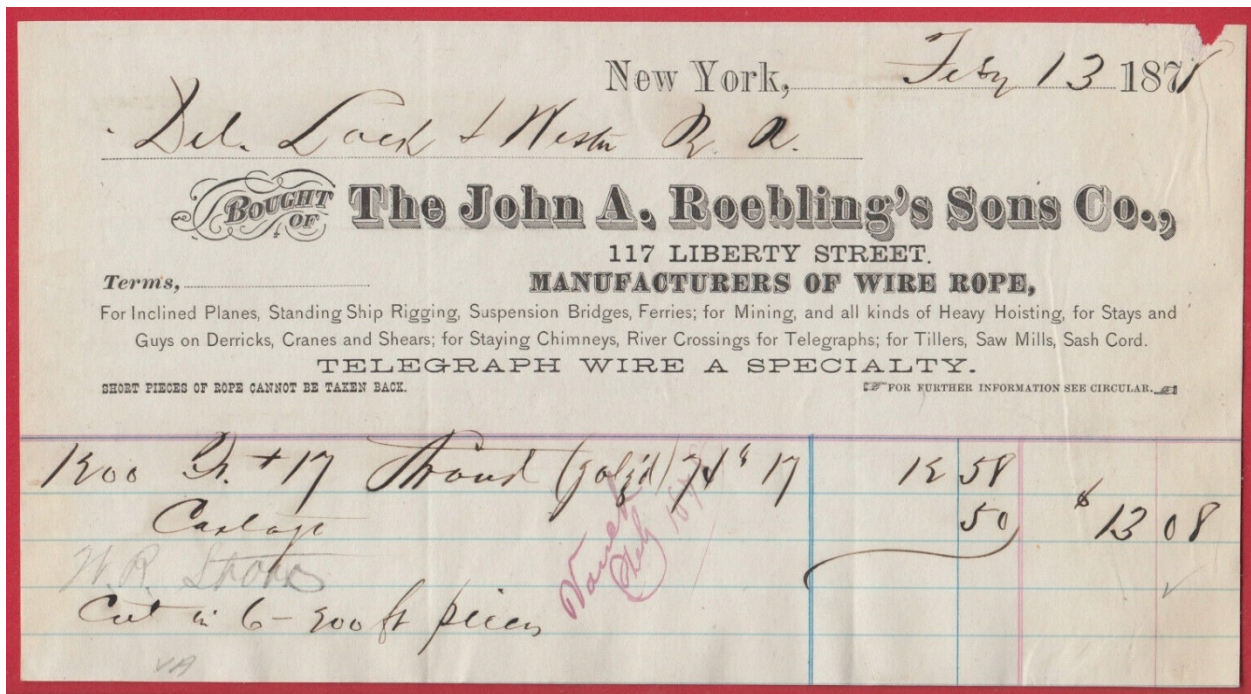
Walter Kierzkowski

Yes, Stillwater area up from Forest City.

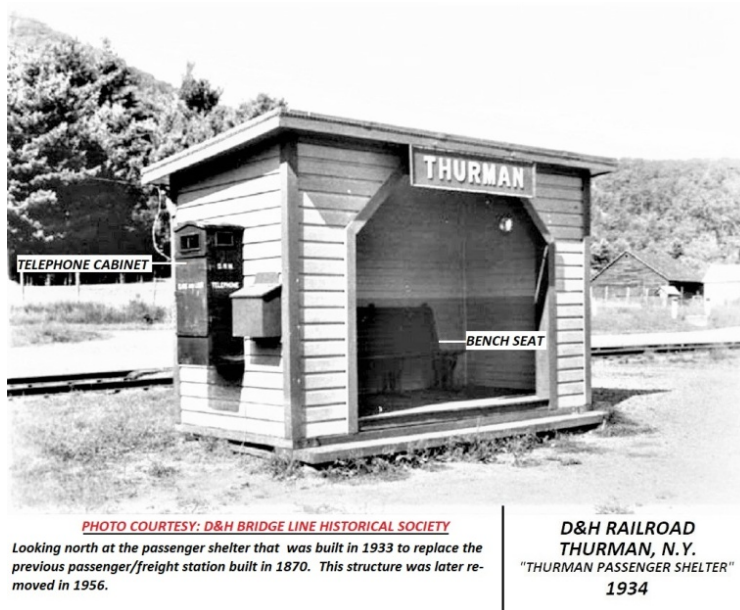
Henry Sommers

My guess is down on the Penn Division for sure. And the bridge at the south end of the Reservoir sounds reasonable. No more than 5 miles north of Forest City.

108. Bill head: *The John A. Roebling's Sons Co., 117 Liberty Street, New York*; offered for sale on E-Bay, May 1, 2020:



109. *D&H Railroad Passenger Shelter, Thurman, NY*. Presentation by Stacy Gardner, May 4, 2020:



110. *Gravity Shops, Carbondale, PA*; two photos posted on Facebook, July 10, 2020:



111. *D&H Office Building, North Main Street, Carbondale*; presentation by Stacy Gardner, May 5, 2020:



PHOTO COURTESY: BRIDGE LINE HISTORICAL SOCIETY

View looking northeast at the D&H RR Co. office building and the Main Street Passenger Station. Note the #22 on the station as several buildings on the D&H property in Carbondale were numbered - probably for fire response identification, etc. Also, note that the office building is almost entirely covered with ivy - some eight to ten years later all the ivy was removed when a second identical building was built on the railroad station site in 1928.

**D&H RAILROAD Co.
CARBONDALE, PA.
"D&H RR Co. OFFICE"
AUG. 31, 1917**

Note by SRP: When the Young Men's Library Association (later known as the Carbondale Public Library) opened in Carbondale in 1873, the D&H made available to the association rooms at the south end of the building shown here.

112. *Gravity Railroad Coaches at Union Station, Dundaff Street, Carbondale*; BLHS photo among a collection of D&H photos that Mike Bischak is now scanning for the BLHS. On the left is a Gravity Railroad closed passenger coach; on the right is a D&H combination freight/passenger car, very probably the car that William Anderson Russell of Fell Township acquired when the Gravity Railroad closed at the end of the nineteenth century. The cars seen in this photograph are in the same location as the cars in the photograph given on the following page, which is presented in S. R. Powell's D&H Volume XIV, p. 17.

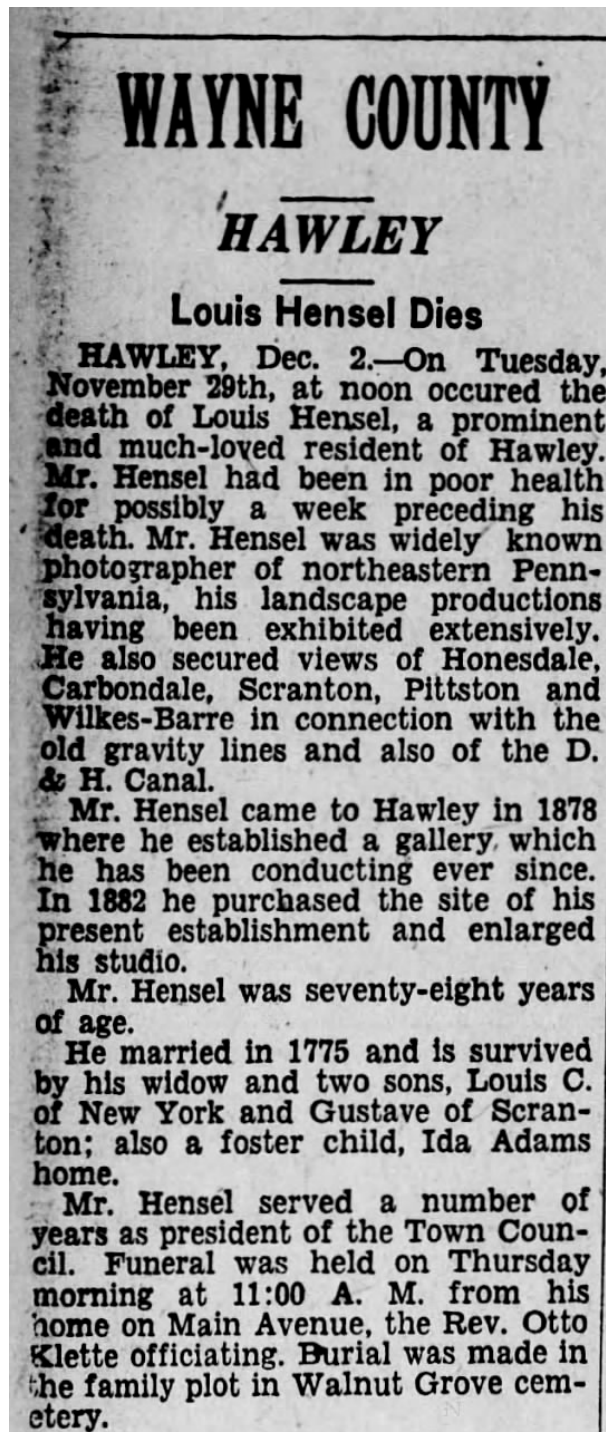


In the lower right corner of this photograph can be seen, in white ink, the number “7958”. Possibly this photograph is one of several/many photographs of its holdings/real estate that the D&H had taken at the same time that this photograph was taken?



D&H Passenger Cars at Union Station, Carbondale, PA. See S. R. Powell's D&H Volume XIV, p. 17

113. Obituary of Ludolph Hensel, who died on November 29, 1927: Many of the earliest photographs of the D&H were taken by Ludolph Hensel.



114. Correction in Volume III, p. 313: In the middle of the map of downtown Olyphant there is a call-out that reads: “Foot of Planes 22 and 23”. That call-out should read: “Foot of Level 22 and foot of Plane 23”

115. *Gravity Railroad Passenger Cars Descending Level 22, Olyphant, PA.* This photograph is in the collection of the Bridge Line Historical Society. On May 10, 2020, Mike Bischak was scanning a group of photos for the BLHS, and came across this photo and sent a copy to SRP with the following comment: “Gravity Railroad, yes, but where?”



SRP studied the photograph and concluded: Both of these tracks are descending tracks to the South. The Gravity passenger cars on the track on the left are descending Level 22 on the light track into Olyphant, headed towards the foot of Level 22 and Plane 23, where connections could be made to Providence and farther south. The tracks on the right are associated with a breaker in Olyphant. Over these breaker tracks, loaded coal cars descended to the South and merged with the light track, and then went down Level 22 to the foot of Level 22, at which point they were sent up Plane No. 23, and through the loaded track of the Gravity system to Honesdale.

116. The name Stacy Gardner is familiar to readers of these D&H *Addenda* by S. Robert Powell, which have been enriched significantly by the contributions to them by Stacy Gardner, the grandson of Stacy E. Gardner.

For the Record: Stacy's grandfather, Stacy E. Gardner, of 50 Birkett Street, Carbondale, worked for the D&H Powderly Mine as a shovel operator, and died there in a mining accident on December 1, 1938.

In the *Pittston Gazette*, Thursday, December 1, 1938, we read:

Carbondale, Pa., Dec. 1.-Squeezed between the cab of a steam shovel and the side of an embankment, this morning, at the coal stripping operation of the DeAngelus Coal Co., Stacy E. Gardner, aged 45 years, was instantly killed. He was a furloughed employe of the D. & H. RR. His wife, formerly Mary Whittington, and two sons survive.

Funeral notice:

CARBONDALE
Gardner—Stacy E. Gardner, 50
Birkett Street, Carbondale. Mon-
day with services at 2:30 p. m.
with the Rev. Dr. S. T. Foster
officiating. Interment, Mother of
Sorrows Cemetery. Arrange-
ments by McGranaghan.

117. Four photos of Farview, with commentary by Stacy Gardner, May 15, 2020:

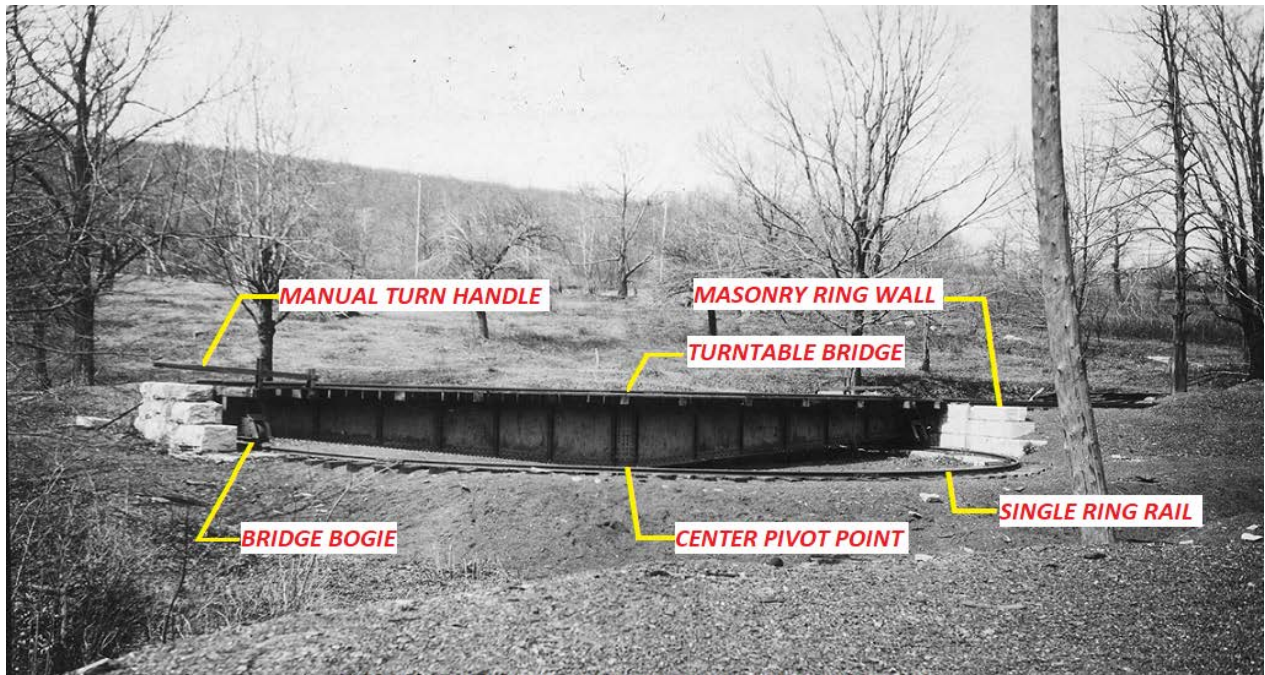
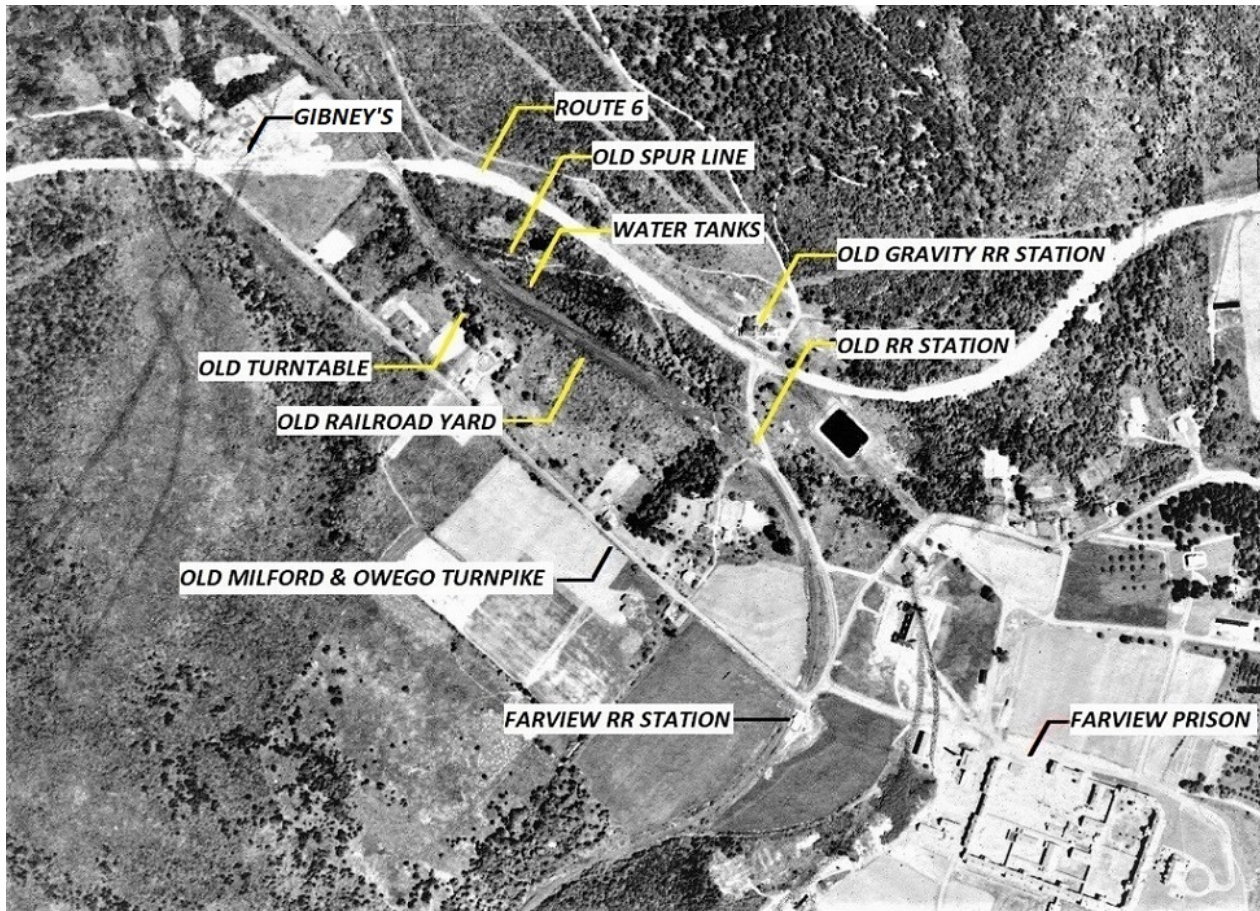


PHOTO COURTESY: BRIDGE LINE HISTORICAL SOCIETY

View looking northeast at the turntable associated with the Honesdale Branch of the D&H and located atop the Moosic Mountains at Farview. The turntable was most likely used to turn "pusher engines" used to assist trains coming up the steep gradient from Carbondale. We believe that the turntable is an "Armstrong" type in the sixty foot range which was pretty common during the early 1900s.

**D&H RAILROAD
FARVIEW, PA.
"TURNTABLE"
APRIL 23, 1917**

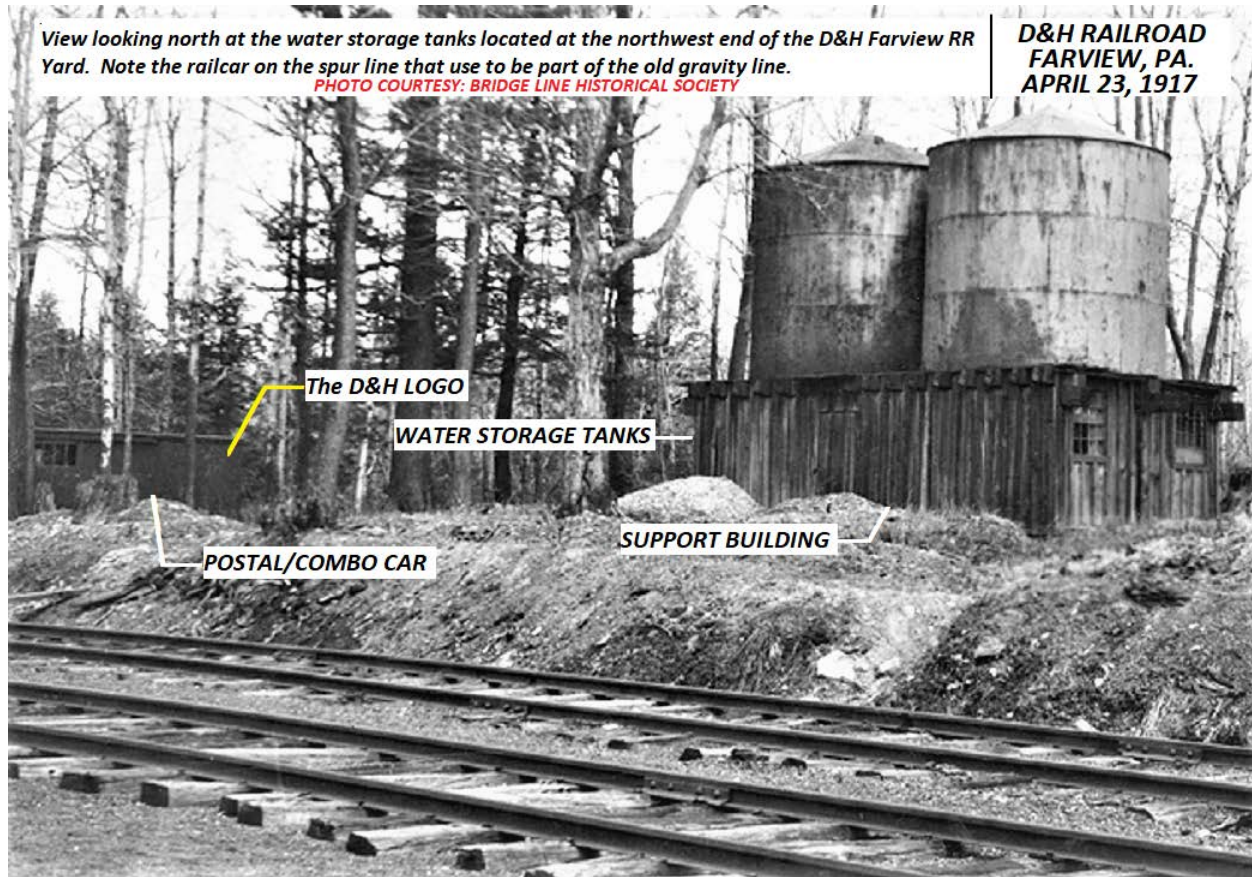
Farview, PA, June 21, 1939: Map detail with labels by Stacy Gardner, May 16, 2020:



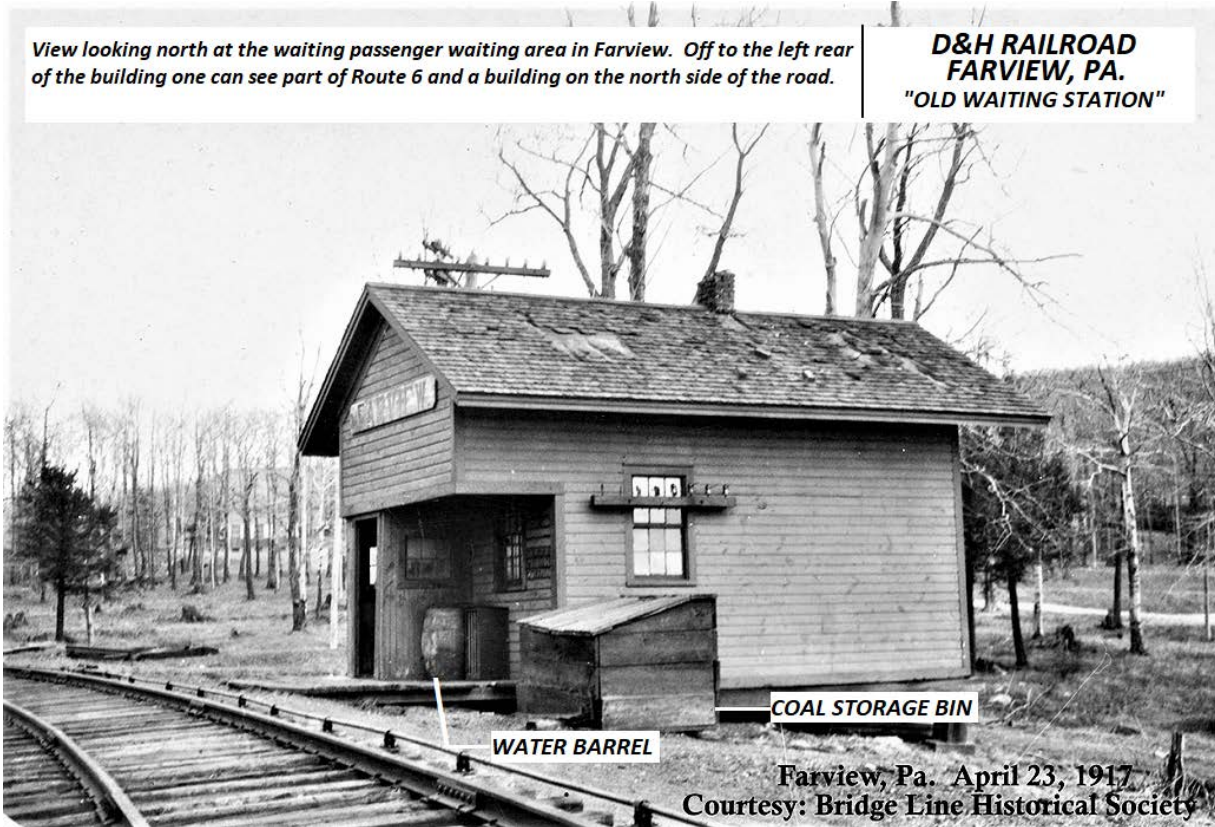
The photo is to show locational information on facilities associated with the Honesdale Branch of the D&H Railroad Company in the Farview area.

D&H RAILROAD Co.
FARVIEW, PA.
JUNE 21, 1939
PENN PILOT PHOTO CENTERS

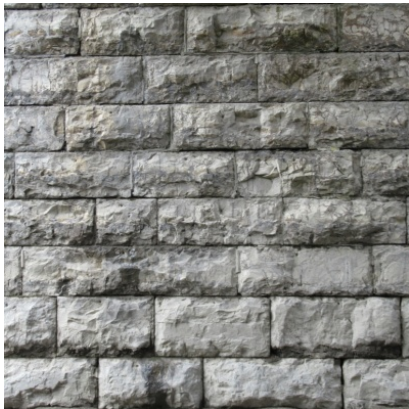
D&H Railroad, Farview, April 23, 1917: from Stacy Gardner, May 16, 2020:



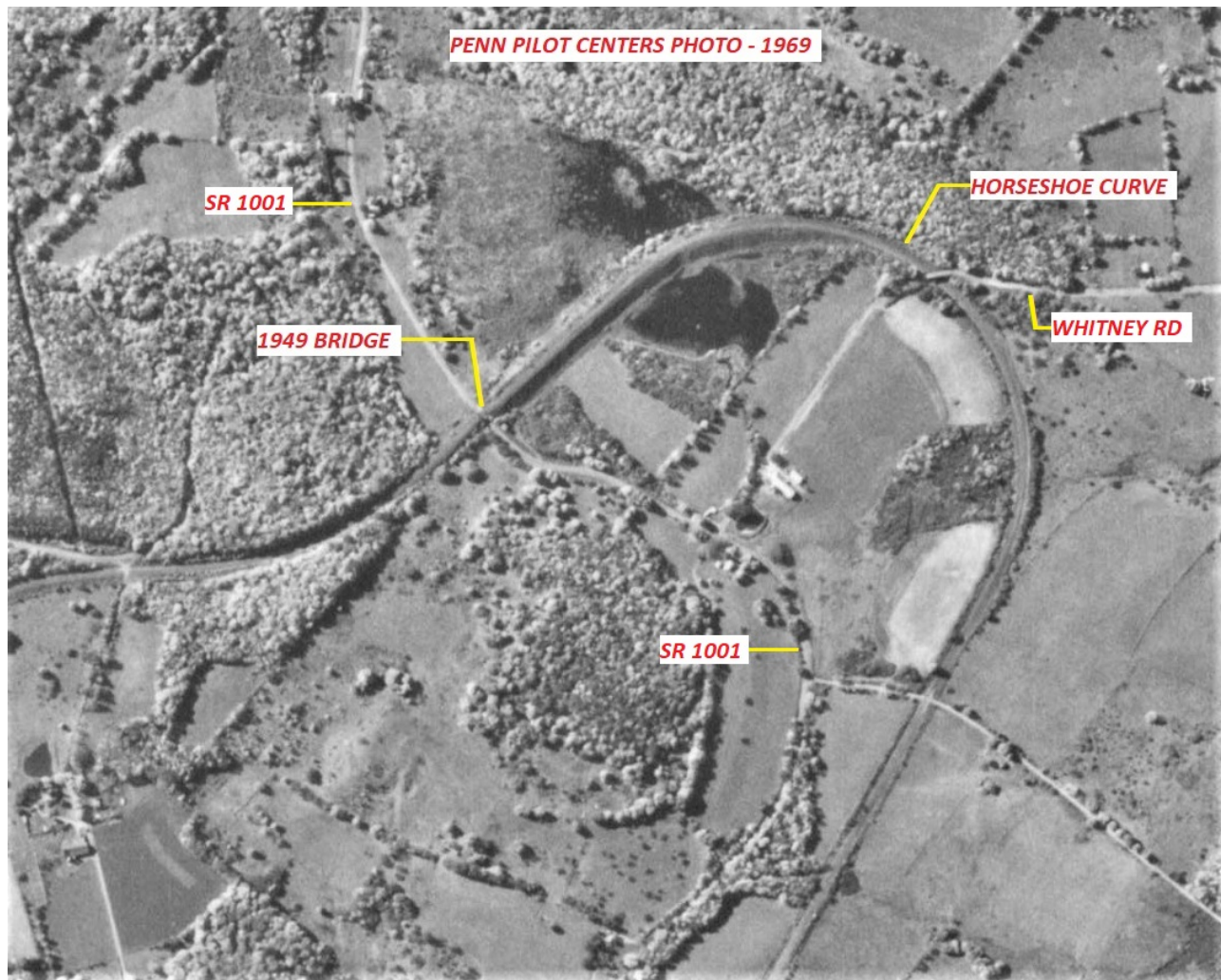
Old Waiting Station, Farview, PA; commentary by Stacy Gardner:



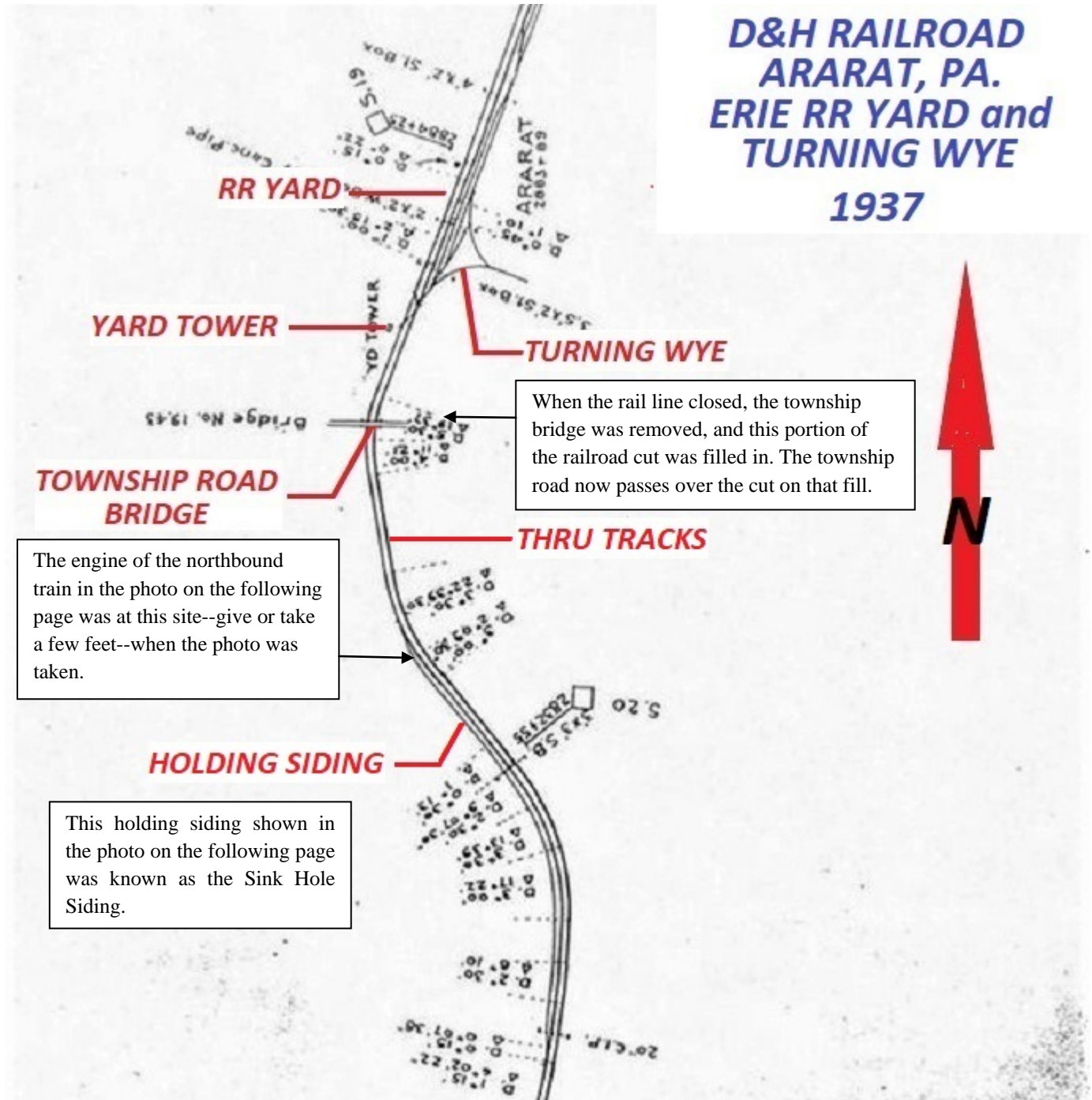
118. Jefferson Branch of Erie Railroad from Carbondale to Lanesboro, May 17, 2020: Field trip, bridge on horseshoe curve as the rail line enters Thompson, PA (bluestone abutments, 1949 date stone). This rail line is now part of the Rails-to-Trails program, and a railing has been installed on the bridge to keep hikers safe. All photos by the author.



Map view from Stacy Gardner, May 19, 2020, showing 1949 bridge and the complete horseshoe curve:



119. Ararat, PA: A Closer Look. General orientation map, with labels in red provided by Stacy Gardner, May 19-20, 2020:



Shown below is the photo page for November in the 1993 Lackawanna & Wyoming Valley Railway Historical Society's calendar. Photo caption by Bob Malinowski. Copy of this photo courtesy Mike Bischak, Simpson, PA.



Delaware & Hudson Challenger No. 1534 and its 78 car train pass Sink Hole Siding on the D&H mainline near Ararat, Pennsylvania in this October, 1950 photo. Train WR-3 is bound from Wilkes-Barre to Rouses Point, and No. 1534 will require the assistance of two of its 1500-class sisters on the hind end of the train. These 4-6-6-4's were the largest and most powerful steam power on the Delaware and Hudson. Diesels replaced steam, and the D&H eventually moved to the ex-Lackawanna line between Taylor and Binghamton. Today the trackage shown in this photo has been abandoned.

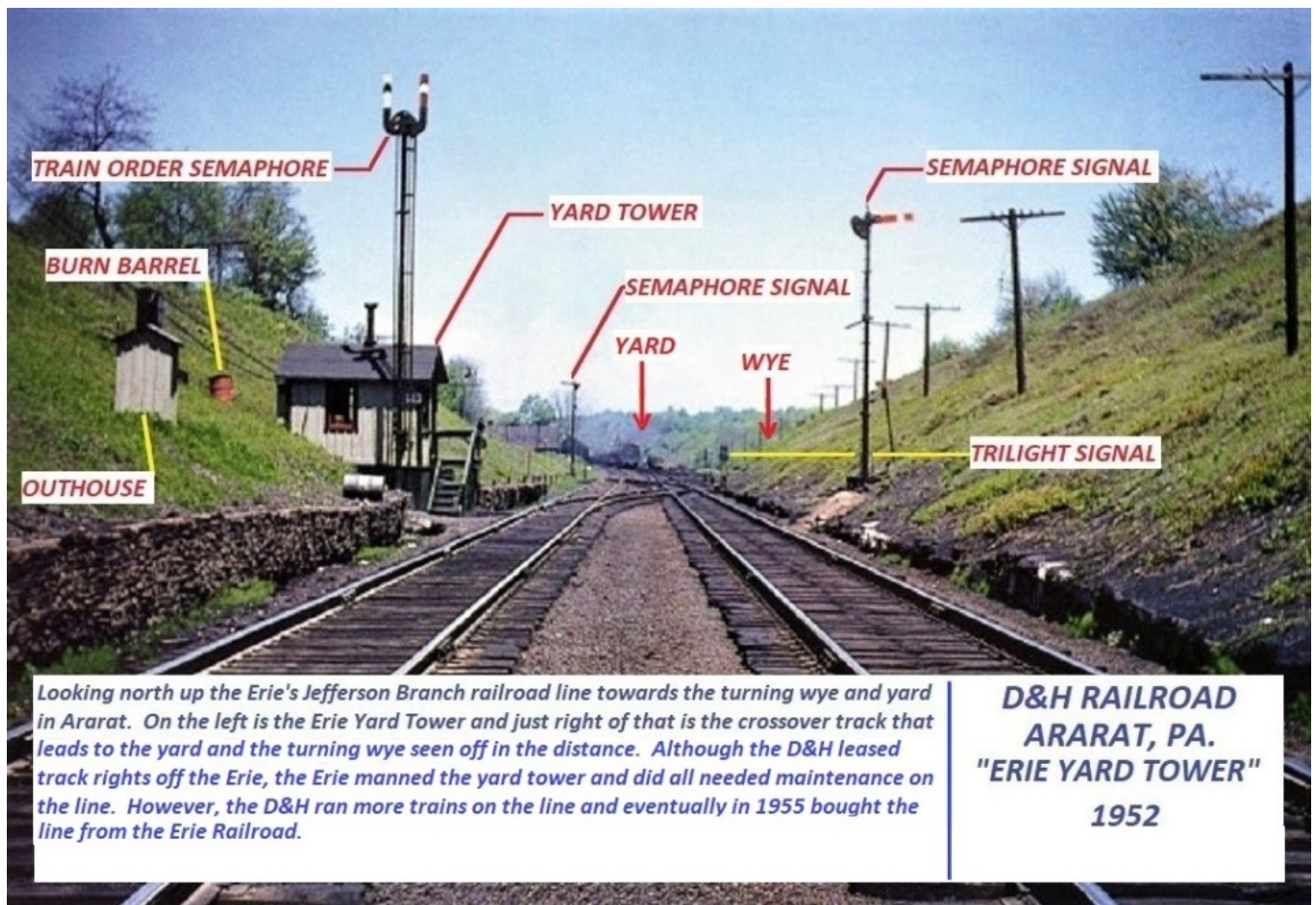
— BOB MALINOSKI

The present-day D&H Rail Trails parking and trail access area is located near the Western end of the township bridge site.



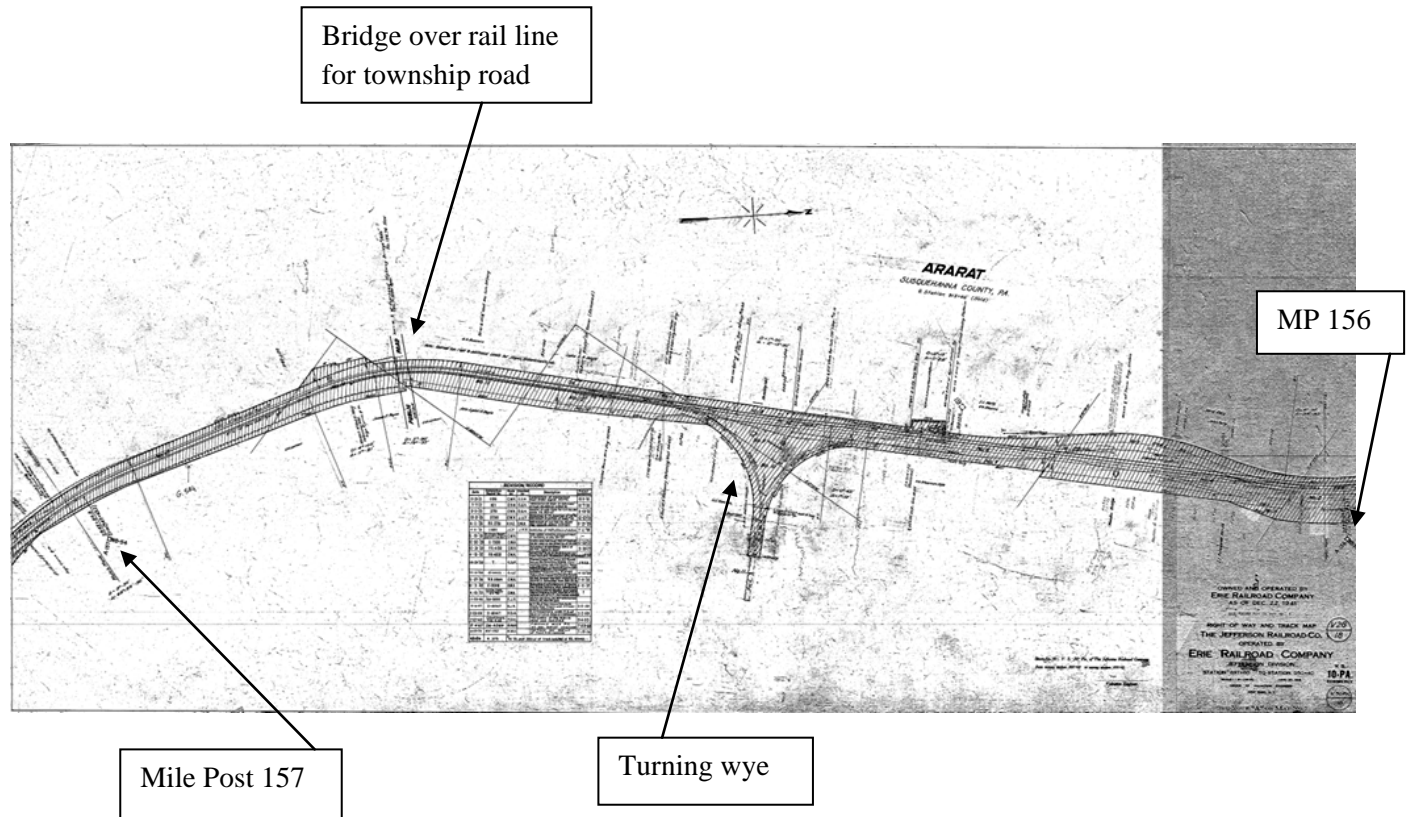
Ararat, PA, Erie Train in the Cut. The yard tower, YD, on the southbound track, is seen in this view, looking south, at Ararat, in the ¼-mile long cut (the entire cut is downgrade, north to south) that was made here through the top of the mountain in order to lessen the height of the grade on the loaded track over the mountain. The northern end of this cut was at the south end of the yard at Ararat; the southern end was at MP 157. The Erie train at the left, moving upgrade, is on the northbound track, and is approaching the yard and the wye at the top of the mountain. One thousand men worked at constructing the Jefferson Branch in 1869-1870. At that time, a temporary construction track was laid in the cut shown here and the excavated dirt and rocks were all sent down to the MP 157 area and dumped into the Sinkhole Swamp in order to establish there a sound base for the D&H trestle and tracks through the Sinkhole Swamp. To appreciate the enormous size of this cut, compare the size of the diesel engines and the other rail cars, the yard tower building, the township road bridge (seen in the distance), the semaphore and telegraph poles with the size of the cut itself.

View Looking North Towards Wye and Rail Yard at Ararat. YD Tower, on the left, on the southbound track. This view of the yard tower area at Ararat, looking north, was made available for use here by Stacy Gardner:



Given below is a copy of the Erie Railroad track map for this section of the line. Track map courtesy of Mike Bischak, Simpson, PA.

MP 157/54 north to MP156/55: D&H Rail Trail on D&H roadbed



The cut at the top of the mountain at Ararat was made in order to make it easier for trains of loaded coal cars to get over the top of the mountain by lowering the roadbed (which was at the base of the cut). The cut begins at MP 157 and extends North, up-grade all the way, to the south end of the rail yard at the top of the mountain and the turning wye there, where the roadbed begins its descent of the mountain from Ararat to Thompson and on down to Lanesboro.

Shown below is a photograph taken, looking North, at the point when the cut comes to an end and the rail line begins its descent towards Lanesboro. It was in this area, as well, that the yard at Ararat was located. In this view, looking North, the turning wye was to the right (area now completely overgrown with bushes and trees).

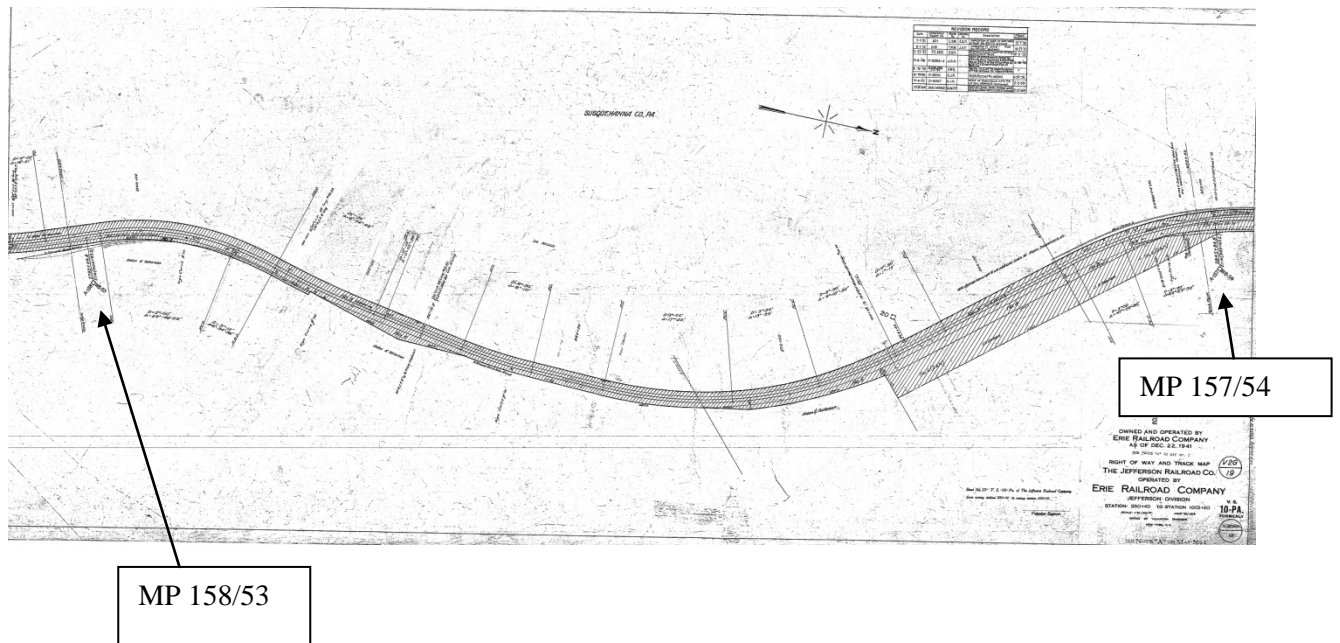


Jefferson Branch of the Erie Railroad Begins Its Descent to Lanesboro. The turning wye was located to the right, in this photograph taken by the author on June 1, 2020.

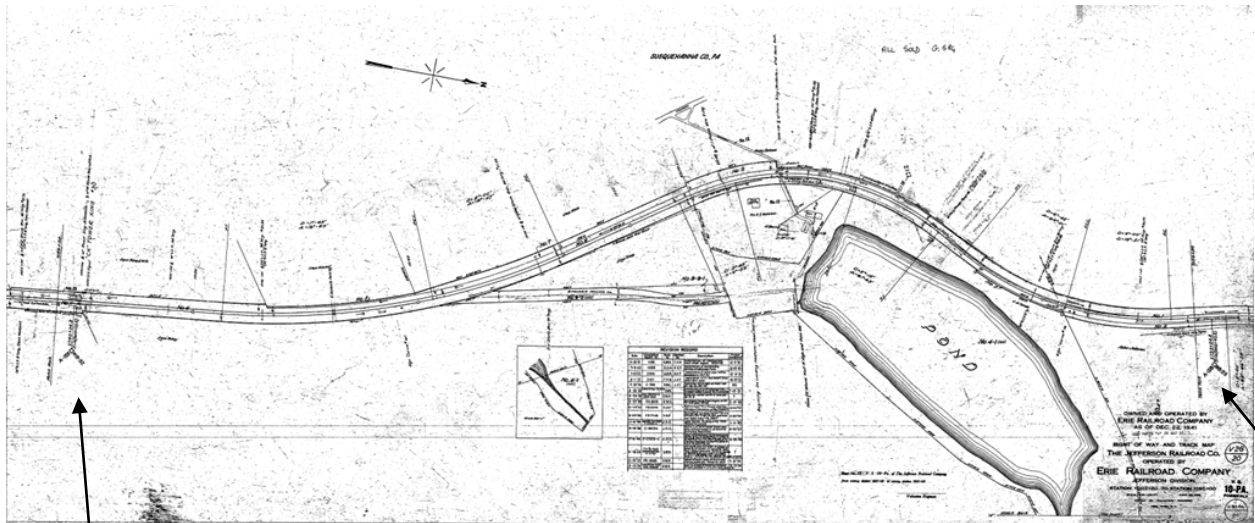
Shown below are two photographs, taken by the author on June 1, 2020 in the area north of Sartell Road, of the rail line as it descends the mountain towards Thompson:



MP 158/53 north to MP 157/54: The D&H railbed and the D&H Rail Trail separate about 25 yards south of MP 157 (separated railbed shown here; to the south and west of the present Rail-Trail), the railbed, descending southwest through the Sinkhole Swamp and then south along the western shore of Romobe Lake. It is here, in the Sinkhole Swamp, that all of the excavated dirt and rocks from the cut at the top of the mountain were dumped in an effort to fill/dry up the swamp and establish a firm footing for the rail line. After many years of additional dumping and filling (mostly with the landslides at other sections of the rail line) the Sinkhole Swamp was finally conquered. Today the area is somewhat swampy and wet but it is no longer the “bottomless pit” that the rail line builders had to contend with when building the rail line in 1869-1870 and for many years thereafter.



MP 159/52 north to MP 158/53: The D&H railbed here, moves in a sweeping curve along the western shore of Romobe Lake, and descends to the South.

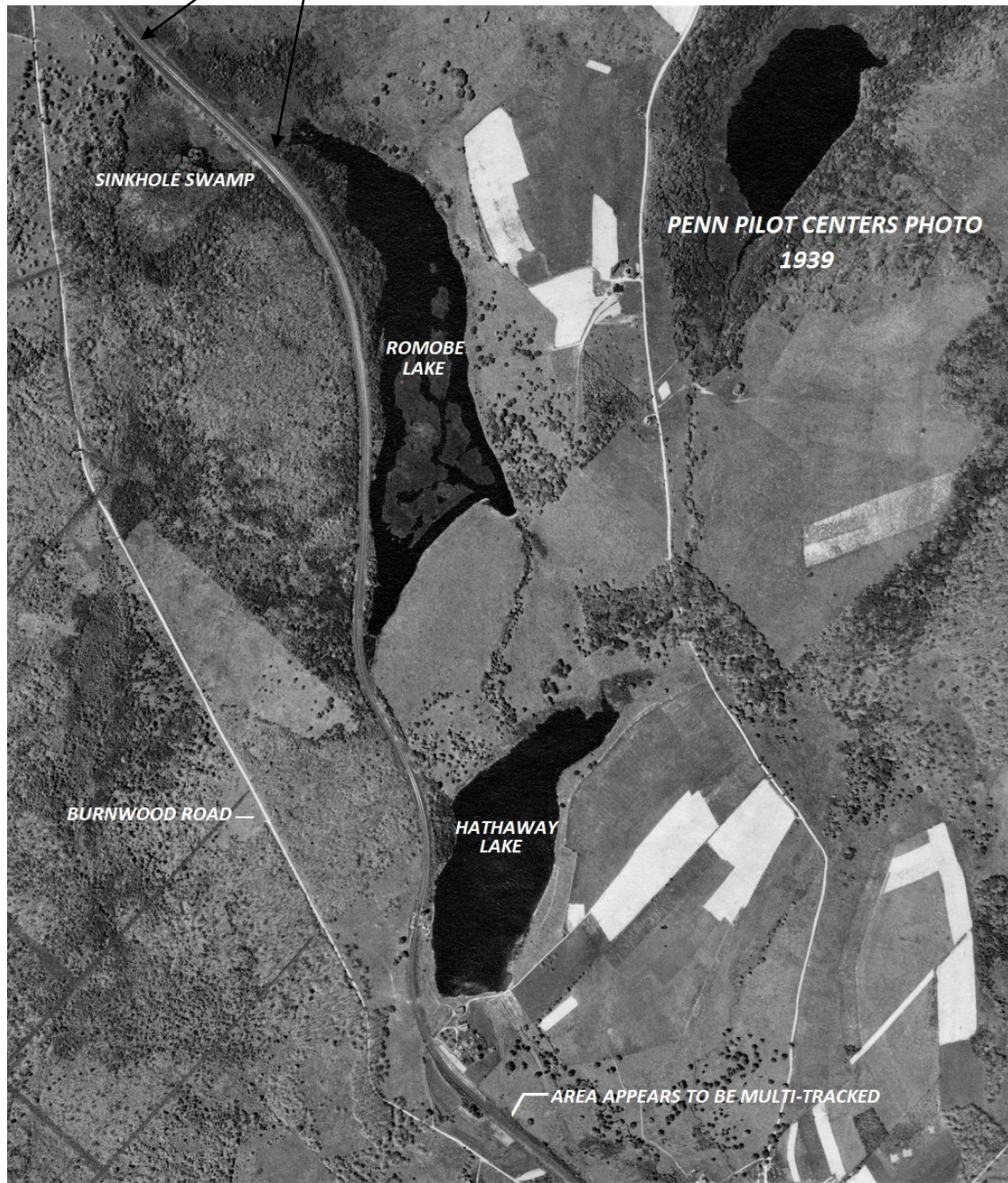


The Penn Pilot Center photo, 1939, with identification labels, given on the following page, was made available by Stacy Gardner.

The D&H rail line through the Sinkhole Swamp and Romobe Lake area, and on down to the south end of Hathaway Lake, is seen at the left of this photo. This is not the route of the D&H Rail trail through this area. The D&H Rail Trail goes around (to the east of) Romobe Lake and then curves to the South between Romobe Lake and Hathaway Lake to the foot of Hathaway Lake, where the trail then goes back onto the former D&H railbed.

The sinkhole swamp area at the north end and west side of Romobe Lake is the area that caused so many problems for the D&H when the line was under construction (and for many years thereafter). To establish a foundation for the D&H trestle and roadbed through the Sinkhole Swamp area, the D&H dumped all of the earth and rocks that were excavated in establishing the cut/ravine for the D&H main between MP 157 and the beginning of the rail yard and the Turning Y at the top of the mountain Ararat. To move all the excavated dirt and rocks to the south to Sinkhole swamp area, the D&H established a temporary rail line at the base of the ravine.

In the Sinkhole Swamp is where the D&H dumped all of the dirt and rocks that were excavated in establishing the ravine at the top of the mountain at Ararat. Remarkably, the D&H trestle over the Sinkhole Swamp is visible (between the two arrow points) in this 1939 aerial photo by Penn Pilot Center.



Photos taken at Ararat by SRP on May 18, 2020 and May 24, 2020:



1.

Rail-Trail entrance
incline/D&H tracks: at
the far end (North) of
this site, the D&H tracks
began to curve gently to
the right and then
separate from the Rail-
Trail.



2.

Rail line begins to separate from the
Rail Trail at this point.

Rail-Trail
entrance
incline

1. View looking north at the D&H Rail Trail entrance at Ararat at the south end of the ravine at the top of the mountain at Ararat. The rail line did not go up this incline.

2. View looking south from the entrance of the D&H Rail Trail. About three-fourths of the way down the Rail Trail drainage rocks (on the right) and on the opposite side of the Rail Trail, the D&H tracks began to move gradually East (to the left) as the rail line entered the ravine and then passed under the Township Road, as it moved North to Ararat summit.



3.



4.

3. Milepost “A 157” [Albany 157 miles] in the bank on the East side of the trail. The number “157” was applied to this milepost when this rail line was part of the D&H system.

4. Milepost “S 20”: This mile post was installed on this site by the Erie Railroad and marked “S 20” [Susquehanna 20 miles]. Just a few feet south of this milepost, the Ararat ravine comes to an end, and the rail-trail curves slightly to the East and the grade of the rail-trail becomes slightly upgrade (which clearly suggests that the D&H railbed and the Rail-Trail have separated).

Elevations above Sea Level

Ararat summit was the highest point on the D&H rail line. Here are the elevations above sea level at various D&H locations:

Honesdale, 985; Carbondale, 1,079; Ararat summit, 2,075; Gravity RR summit, 1,947; Pavilion at Farview Park, 2,053; High Point, Farview, 2,328; top rail at highest observatory at Farview Park, 2,345.

5. This is the point (about 25 yards south of MP 157) where the present Rail-Trail and the original rail line through this area part ways. The rail line descends through the woods on the right of the Rail-Trail, moving generally South and West, and ultimately running south on the western shore of Romobe Lake.



The Ararat Ravine: The top of the mountain at Ararat is a lofty tableland, 2075 feet above sea level. To facilitate the passage of the rail line over the top of the mountain, the D&H dug an extensive cut/ravine through the top of the mountain, at the base of which ran the D&H tracks. That ravine extends from MP 157 to the south end of the D&H yard at the top of the mountain at Ararat.

6. Closer view of the same site that is shown in photo No. 5, above: the rail line and the D&H Rail-Trail separated at this point, the rail line entering the wooded area on the right and running parallel with the Rail Trail for a short distance, and then descending to the southwest on a long trestle and then, at grade, along the Western shore of Romobe Lake and on south. The land to the west of the Rail Trail here is Sinkhole Swamp, over which the D&H rail line passed on a curved trestle. Sinkhole Swamp no longer looks like a swamp because the D&H dumped there all of the earth and rocks that were excavated in digging out the Ararat ravine--which helped to establish a firm footing for the rail trestle through this area.



7. Trestle site and Romobe Lake:



8. Photos on this and the following page: Remnants of the trestle/rail line found by the author in the path of the rail line through the Sinkhole Swamp area:



Photos taken on the pathway of the trestle through the Sinkhole Swamp area:



Why have the “recent” surveyor’s ribbons, that can be seen in the three photos in row two, above, been attached to trees located in the pathway of the D&H rail line through the Sinkhole Swamp area? My guess is that when the Rail-Trail builders were preparing to build the trail, they first wanted to know the exact footprint of the D&H rail line through this area--and so surveyors identified and marked the route. The Rail-Trail planners possibly came to the conclusion, having studied the route identified by the surveyors, that to establish a rail trail through the Sinkhole Swamp area would not only be very difficult to do but also very costly. The Rail-Trail planners, it is my guess, then decided that it would be more cost efficient and probably much easier to have the Rail-Trail descend south from Ararat to Burnwood on the eastern side of Romobe Lake, where the Rail-Trail is now located, and not on the western side of Romobe Lake, where the rail-line was established.

The site of the former Township Road bridge over the rail line, which ran in this ravine at Ararat. This is the south side of the bridge site.



This is the view from the bridge site, looking north. The wye, at the summit of the mountain, was just a short distance ahead, on the east side (to the right in this photo) of the rail line.





D&H Rail-Trail Entrance Area, Ararat Summit, June 14, 2020; photo by the author.

120. D&H passenger car *Eclipse*, now inside the Wayne County Historical Society at Honesdale. D&H photo, by Bodie, and notes from Stacy Gardner, May 20, 2020:



View looking northwest from the gravity railroad side of the Lackawanna River towards the Coal Brook Breaker on the opposite side of the river at D&H Gravity RR Passenger Car No.9 "Eclipse". The "Eclipse" was built in the D&H Gravity RR Shops in Carbondale in December 1882. Pictured on the steps is John E. Blocksidge - a D&H Foreman Painter. The car was completely restored in 1925 and displayed in Carbondale before being sent to it's permanent home in Honesdale.

**D&H GRAVITY RR
CARBONDALE, PA.
"ECLIPSE CAR No.9"**

CIRCA 1925

CARBONDALE HISTORICAL SOCIETY

121. "The Seven Photographic Series of Ludolph Hensel" by S. Robert Powell (*BLHS Bulletin*, June 2020, pp. 16-17, 19):

The Seven Photographic Series of Ludolph Hensel

By S. Robert Powell, Ph. D.

Many of the earliest photographs of the D&H and its operations were named series of photographs taken by Ludolph Hensel (1849-1927) of Port Jervis, NY, and Hawley, PA. Seven of those series, six of them stereoscopic views, are known to exist.

Here is the newspaper story (August 2, 1879 issue of the *Carbondale Advance*, p. 3) in which the publication of Hensel's "Splendid Home Stereoscopic Views" was announced:

"Splendid Home Stereoscopic Views. / Mr. L. Hensel, a very skillful artist of Port Jervis, N. Y., has rendered our town, and our romantic coal region, a great service. For some months past he has been engaged in taking views upon the streets of our city, and of the whole town from surrounding elevations, and also along the line of our different railroads, including many wild, weird and romantic scenes. His subjects have been well chosen, and the work done with great judgment and skill. Together they make a collection of the finest stereoscopic views that have yet been published. No pictures can surpass them in romantic beauty, and we predict for them great popularity and a wide sale everywhere. Here, especially, they have an added and still greater value. They pertain to our own homes, and surroundings, and place in a most interesting form—so that they may be enjoyed at ease in our parlors—the picturesque beauty of scenes about us. They should be upon every centre table. / The names of the different views embraced in the list will be found in our advertising columns to-day, and a full supply can be found at the store of Henry B. Jadwin, on the Public Square, Price 20 cts. each; \$2.00 per dozen." These stereocards were also on sale at Peterson's and Greeley's in Honesdale.

Stereocards by Hensel in seven separate series are in the collection of the Carbondale Historical Society. Series Nos. 1 and 2 were produced in 1879, when Hensel was 30 years old. The years in which Series 3-7 were produced have not yet been learned. Here are the basic facts on the seven series:

1. *A RIDE OVER THE DEL. & HUD. GRAVITY ROAD INTO THE COAL REGIONS, Photographed and Published by L. HENSEL, Port Jervis, N. Y. 1879* (Referenced in the above ad from the August 2, 1879 issue of the *Carbondale Advance*). All of the images in this series, Nos. 1100-1166, are stereoscopic views of the D&H Gravity Railroad. Note that there are also D&H images in the second, third, fourth, and sixth series referenced below.

2. *STEREOSCOPIC VIEWS of CARBONDALE, PA. Photographed and Published by L. HENSEL, Port Jervis, N. Y. 1879.* Views Nos. 1167-1190 in this series are of Carbondale. Additional views of Carbondale are given in Series Nos. 3 and 4 below. Also in this series are views of Pike County, PA: Views Nos. 209-238. Additional views of Pike County are given in the fifth series listed below.

3. *VIEWS OF CARBONDALE, PA. Photographed and Published by L. HENSEL, HAWLEY, PA.* These photographs of Carbondale and the surrounding area, which are numbered 1-50, and which were offered for sale at \$2 per dozen, are not stereoscopic views. The date of publication of this series is not yet known.

4. *Views along THE HONESDALE BRANCH OF THE NEW YORK, LAKE ERIE & WESTERN RAILROAD, Photographed and Published by L. HENSEL, PORT JERVIS, N. Y.* The date on this series is not yet known. Views No. 650-657 in this series are of the Honesdale Branch of the New York, Lake Erie & Western Railroad. Also in this series are views of Honesdale (Nos. 963-979); views of Carbondale (Nos. 1191-1200); and views of Crystal Lake (No. 1201-1212). These are all stereoscopic views.

5. *THE BEAUTIFUL SCENERY OF PIKE CO., PA., Photographed and Published by L. HENSEL, Port Jervis, N. Y.* The date on this series is not yet known. Views Nos. 600-637 in this series are of Pike County; views Nos. 800-814 in this series are of Hawley, Wayne County. These are all stereoscopic views.

6. *Stereoscopic Views of HONESDALE, PA. Photographed and Published by L. HENSEL, Port Jervis, N. Y.* The views in this series are numbered 900-958.

7. *A RIDE over the PENN'A COAL CO.'S GRAVITY ROAD INTO THE COAL REGIONS. Photographed and Published by L. HENSEL, Hawley, PA.* These are all stereoscopic views, and they are numbered 1400-1459.

Careful study of the many photographs of Delaware and Hudson real estate, rolling stock, and anthracite mining operations shown in these photographic series by Hensel makes it very clear that there is much to be learned about D&H facilities and operations from these photographs (also about facilities and operations of the Pennsylvania Coal Company Gravity Railroad, and the Honesdale Branch of the New York, Lake Erie and Western Railroad) that is not described in the textual histories of those companies.

In none of the published histories of the D&H, for example, is there any discussion of the use of de-railers in the tracks of the D&H in the nineteenth century. Having studied these and other photographs by Hensel, however, our colleague Stacy Gardner of Forest City, PA, has determined that the D&H used three specific types of de-railers (in-rail, between-the-rails, and

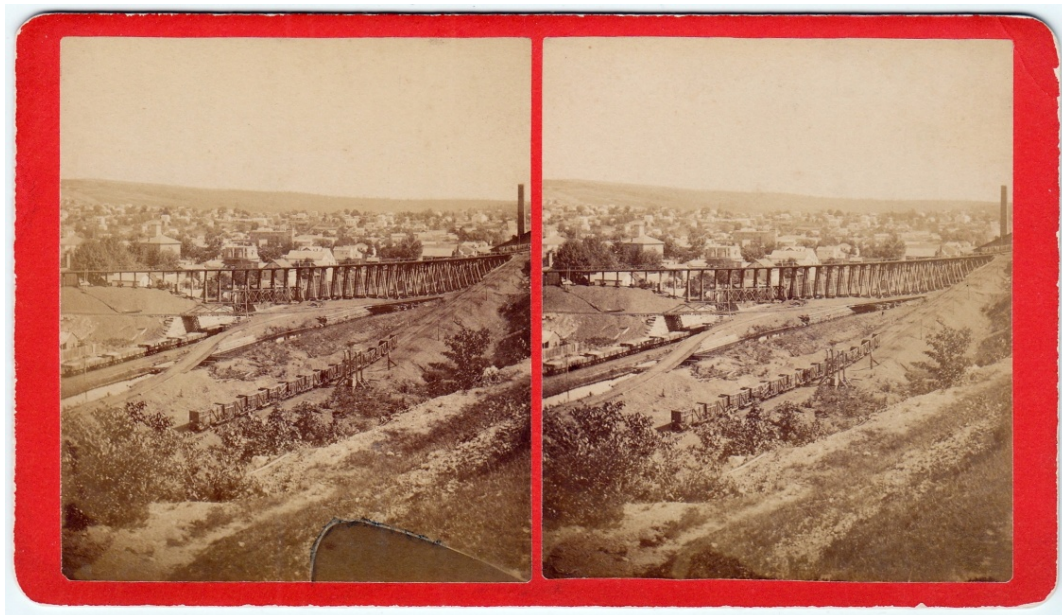
outside-the-rails de-railers, with variations within each type) on both its loaded and light track planes throughout the period 1860-1890. All three types of de-railers allowed cars to ascend the various planes, however, should any break away they would be de-railed to protect personnel and property located at the foot of the planes.

For the record, Stacy Gardner has determined that *in-rail derailers* were used on Gravity planes Nos. 13, 23, and the breaker plane located at the Racket Brook Breaker. *Between-the-rails de-railers* were used on Gravity planes Nos. 1, 2, 3, 4, 5, 7, 13, 19, 20 and 28B. *Outside-the-rails de-railers* have been identified on Gravity planes Nos. 9, 10, 12, and the breaker plane at Racket Brook Breaker.

Hensel's photographic career extended well into the twentieth century and, in addition to these seven early series, he took hundreds of other photographs of Delaware and Hudson sites as well as non-railroad subjects and individuals. From that astonishing body of photographs, much remains to be learned.

* * * * *

The two Hensel stereocards shown below are included in the article given above:



Series No. 2: C1186: *Head of No. 28 Plane, and Carbondale seen from above the Highworks* by Ludolph Hensel



Series No. 1, No. 1120: *View of Shepard's [Shepherd's] Crook* by Ludolph Hensel

Given below is the above article as published in the June 2020 issue of the *BLHS Bulletin*:



Bridge Line Historical Society

Bulletin

Volume 30, Number 6

\$4.00
BRIDGE-LINE.ORG



June 2020



For the Record The Seven Photographic Series of Ludolph Hensel

by S. Robert Powell, Ph.D.

Many of the earliest photographs of the D&H and its operations were named series of photographs taken by Ludolph Hensel (1849-1927) of Port Jervis, NY, and Hawley, PA. Seven of those series, six of them stereoscopic views, are known to exist.

On August 2, 1879, the newspaper *Carbondale Advance* announced the publication of Hensel's "Splendid Home Stereoscopic Views":

"Splendid Home Stereoscopic Views"

"Mr. L. Hensel, a very skillful artist of Port Jervis, N.Y., has rendered our town, and our romantic coal region, a great service. For some months past, he has been engaged in taking views upon the streets of our city, and of the whole town from surrounding elevations, and also along the line of our different railroads, including many wild, weird and romantic scenes. His subjects have been well chosen, and the work done with great judgment and skill. Together they make a collection of the finest stereoscopic views that have yet been published. No pictures can surpass them in romantic beauty, and we predict for them great popularity and a wide sale everywhere. Here, especially, they have an added and still greater value. They pertain to our own homes, and surroundings, and place in a most interesting form - so that they may be enjoyed at ease in our parlors - the picturesque beauty of scenes about us. They should be upon every centre table. The names of the different views embraced in the list will be found in our advertising columns today, and a full supply can be found at the store of Henry B. Jadwin, on the Public Square, Price 20 cents each; \$2.00 per dozen".

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Wayne County. These are all stereoscopic views.

6. *Stereoscopic Views of Honesdale, Pa. Photographed and Published by L. Hensel, Port Jervis, N.Y.* The views in this series are numbered 900-958.

7. *A Ride Over the Penn'a Coal Co's Gravity Road Into the Coal Regions. Photographed and Published by L. Hensel, Hawley, Pa.* These are all stereoscopic views, and are numbered 1400-1459.

Careful study of the many photographs of Delaware and Hudson real estate, rolling stock, and anthracite mining operations shown in these photographic series by Hensel makes it very clear that there is much to be learned about D&H facilities and operations from these photographs (also about facilities and operations of the Pennsylvania Coal Company Gravity Railroad, and the Honesdale Branch of the New York, Lake Erie and Western Railroad) that is not described in the textual histories of those companies.

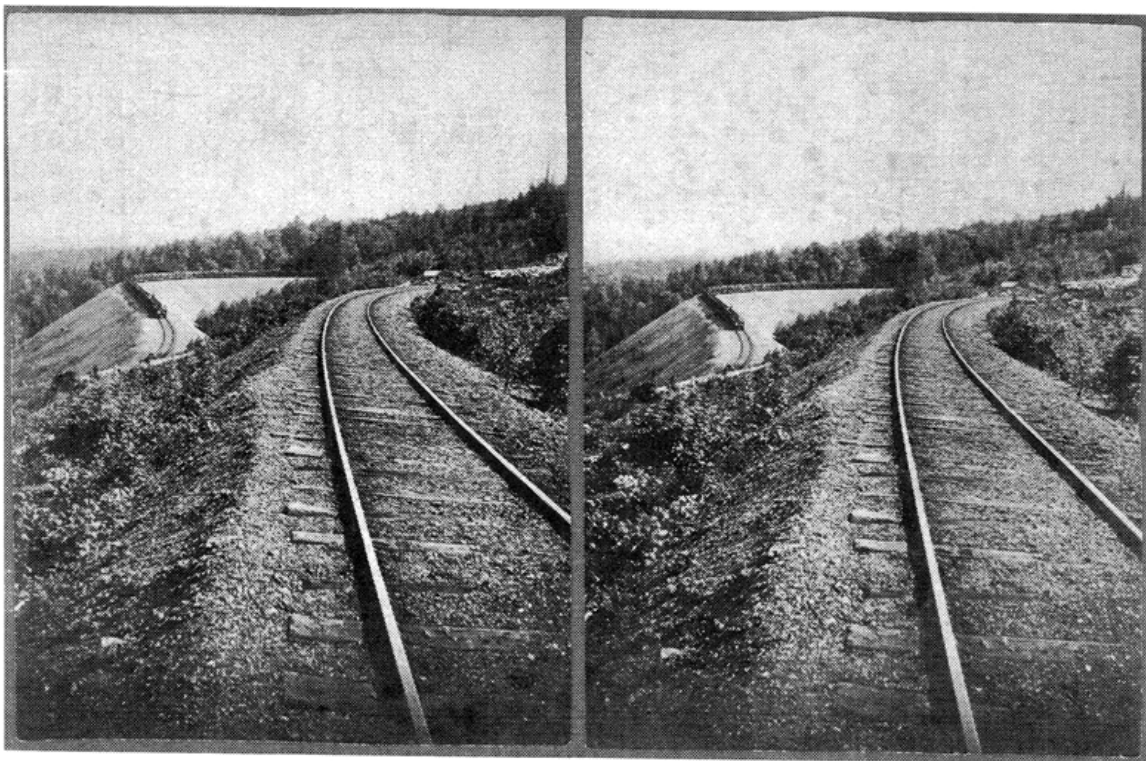
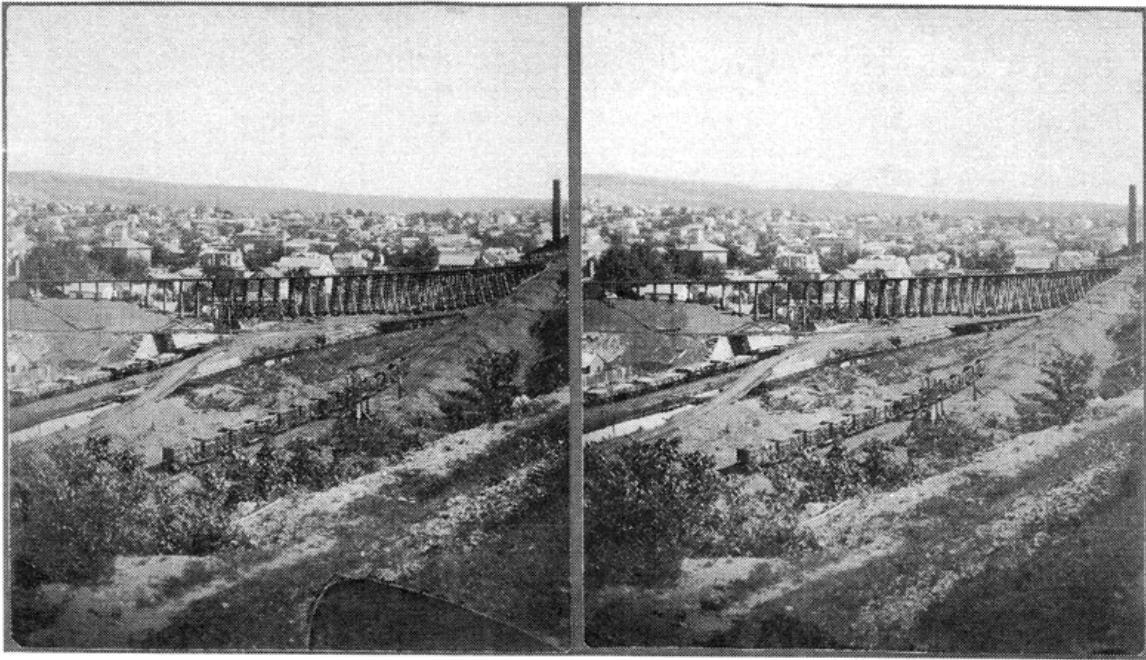
In none of the published histories of the D&H, for example, is there any discussion of the use of derailleurs in the tracks of the D&H in the nineteenth century. Having studied these and other photographs by Hensel, however, our colleague Stacy Gardner of Forest City, PA, has determined that the D&H used three specific types of derailleurs (in-rail,

continued on page 19

Page 17:

Top: D&H Gravity Railroad, Plane #28; photographer Ludolph Hensel, Series #2, #C1186. Courtesy of Dr. S. Robert Powell, Carbondale Historical Society.

Bottom: D&H Gravity Railroad's "Shepherd's Crook", by Ludolph Hensel, Series #1, #1120. Courtesy of Dr. S. Robert Powell, Carbondale Historical Society.



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122. *D&H Map, 1824*. The D&H had this map produced as a visual aid/promotional document to be shown to potential investors in the D&H in the years before the Canal and the Gravity Railroad were constructed. Original copy of this map in the D&H Canal Museum, High Falls, NY.



Could a canal be built from the tide water of the Hudson River to a point as near as possible to the coal mines in Carbondale? What was the practicability of building such a canal? What would be the expense of constructing such a canal?

In May 1823, Benjamin Wright, the principal engineer building the Erie Canal, was engaged by the Maurice and William Wurts/the D&H to take measures to have a proper survey or running level carried over the country from ‘tide-water of the Hudson River, at the mouth of the Wallkill, up the valley of the Rondout and thence over to the Delaware River, and thence up the same to the confluence of the Lackawaxen, and thence up the Lackawaxen, to a point as near to the Coal Mine as possible,’ in order to ascertain the practicability and expense of constructing a canal (slack water navigation) over this route.

In *Mathews* (p. 229) we read: “As Mr. Wright could not well disengage himself from his duties in connection with Governor Clinton’s favorite enterprise, he deputized Colonel J. L. Sullivan [builder of the Middlesex Canal in Massachusetts] and John B. Mills, two experienced civil engineers, to make the survey. During the summer and fall of 1823 the surveys were made under the immediate supervision of the coal-mine proprietors [Maurice and William Wurts], and a map of the region and the route was shortly afterwards produced to assist in awakening the interest of Philadelphia and New York capitalists, who had no other knowledge of the obscure coal-fields than they could gain from it.”

The survey was completed by November 1823. On that map, seven localities were designated where coal had been discovered: five of them in Carbondale (the main or northern mine was on

the eastern bank of the Lackawanna), one below the falls, near Wagner's Gap (Archbald), and the remaining one on the farm of James Anderson, in Providence township, twelve miles below Carbondale.

This map (Report of Messrs. Wright and Sullivan, engineers engaged in the survey of the Proposed Canal from the Hudson to the Head Waters of the Lackawanna River 1824) was made to attract the attention of New York and Philadelphia capitalists who had no other geographical knowledge of the obscure coal region than that gained by a glance upon its representations. It was the favorable impression made upon capitalists by this widely circulated map that led to the consideration and advancement of the D&H Canal.

For additional information on this 1824 map, see SRP's D&H Volume I, pp.55-57.

123. Two Honesdale stations: *Union Station* and *Gravity Freight and Passenger Station*. Both of these photos are Bridge Line Historical Society photos that are now being scanned by Mike Bischak for the BLHS.

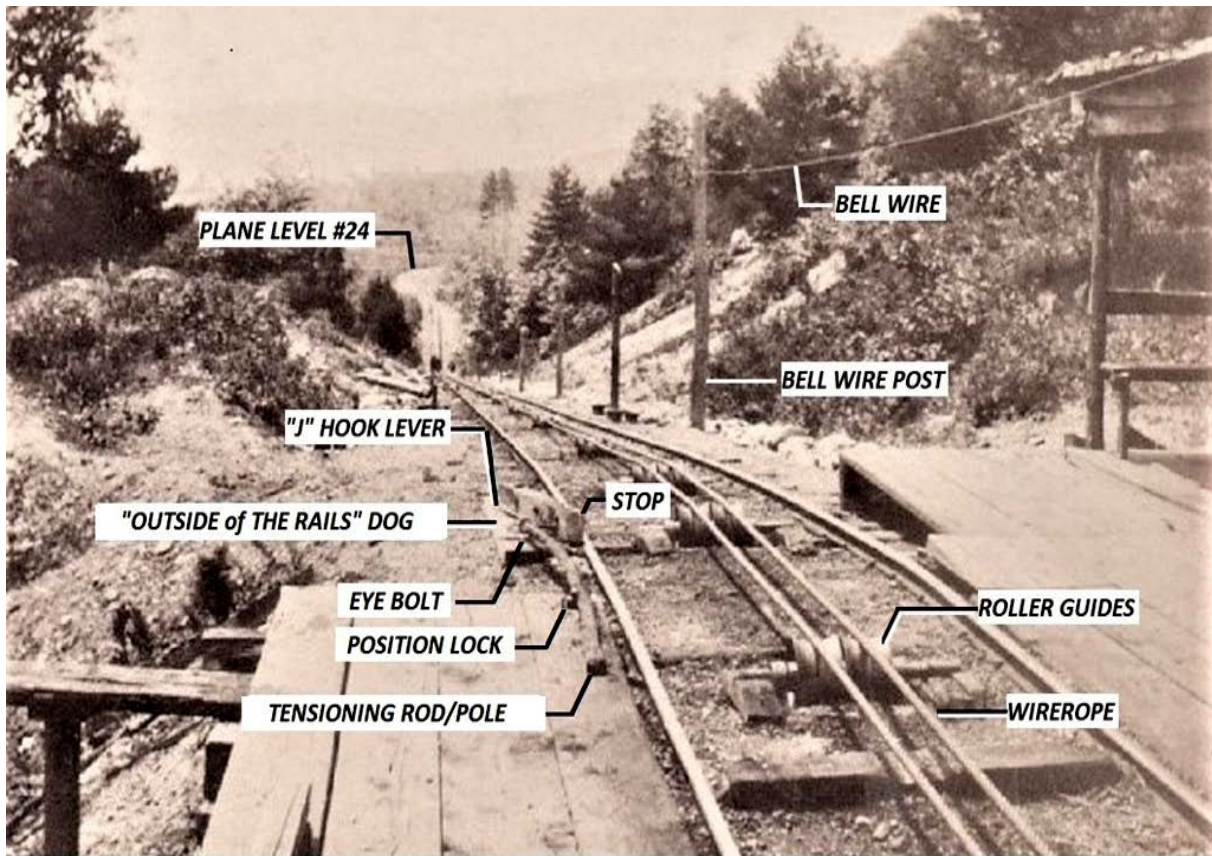


Union Station, Honesdale, PA



D&H Gravity Railroad Passenger and Freight Station, Honesdale (seen from Main Street). A photo of this station, seen from Main Street, is also given in SRP's D&H Volume VIII, p. 235.

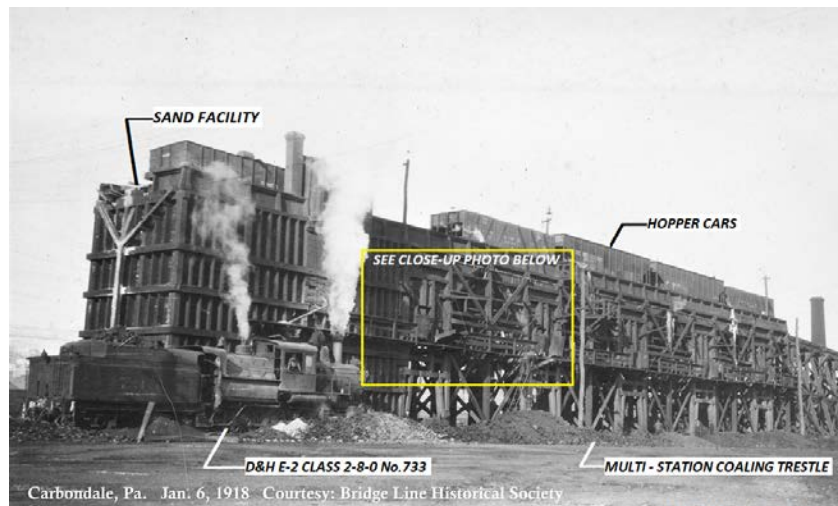
124. View down Plane No. 25, photo with identifications from Stacy Gardner, May 25, 2020:



View looking northwest down the loaded plane from it's head to it's foot with a portion of Plane Level #24 (Aka "E") seen off in the distance. Of note here an outside the rail "Dog" used to allow loaded coal wagons to assend the plane and prevent them from rolling back down the plane once they pass. This particular "DOG" is similar in design to the one we identified on Plane No.12 in Waymart - that one was a combination outside the rail de-railer and "DOG" - both are controlled by a "J" hook lever.

**D&H GRAVITY RR
RIVERSIDE, PA.
PLANE #25 (Aka "D")
CIRCA 1880s**

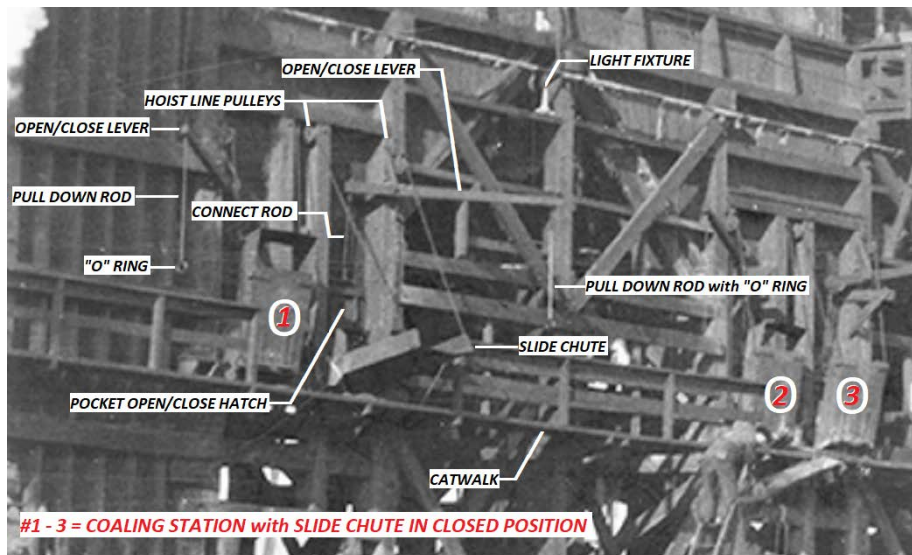
125. Coaling and Sand Trestle in the D&H Carbondale Yard; photos and identifications by Stacy Gardner, May 26, 2020:



Carbondale, Pa. Jan. 6, 1918 Courtesy: Bridge Line Historical Society

View looking west at the multi-station coaling and sand trestle located just outside the roundhouse on the southern end of the yard. On this side of the trestle there are ten coaling stations and a sand loading station - the opposite side of the trestle has the same. The facility has several light fixtures for night time operations also, sometime after this photo was taken and before 1939 both the tops of the coaling and sand stations were covered to protect them from the elements.

D&H RAILROAD Co.
"COALING AND SAND TRESTDLE"
CARBONDALE, PA.
1918



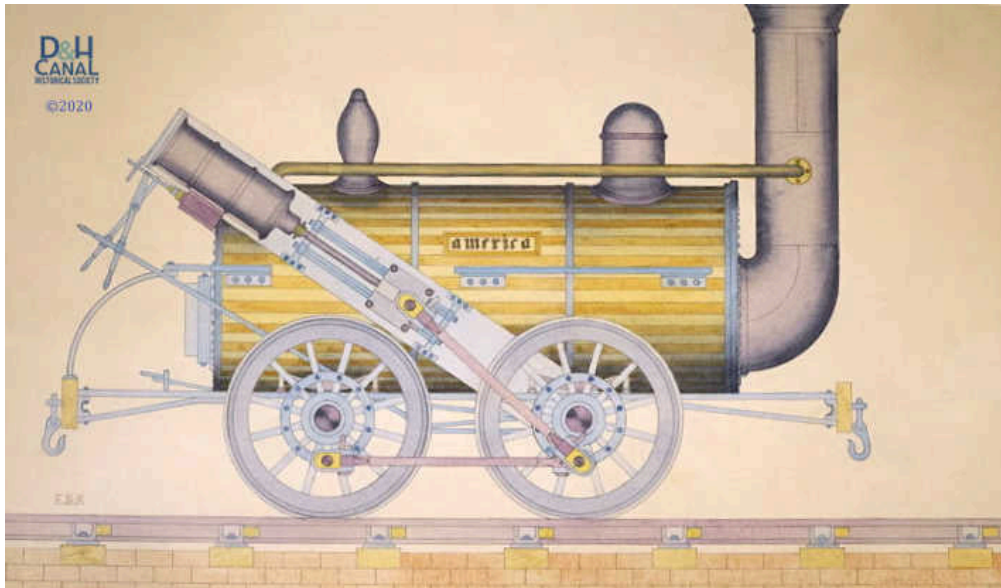
#1 - 3 = COALING STATION with SLIDE CHUTE IN CLOSED POSITION

Close-up view looking west at four (one with it's slide chute partially lowered) of the ten coaling stations on this side of the coaling and sand trestle located just outside the roundhouse on the south end of the railroad yard. This photo pretty much shows all the chutes, ropes/chains, pulleys, rods, and levers necessary to fuel the many engines that go through or operate out of Carbondale.

CLOSE-UP VIEW
D&H RAILROAD Co.
"COALING AND SAND TRESTDLE"
CARBONDALE, PA.
1918

126. *The D&H Engine, America*; Facebook post by the D&H Canal Museum, May 27, 2020:

It was on this day, May 27, in 1829, that the people "...went to Abeel & Dunscomb's foundry to meet a large party of gentlemen who were assembled by invitation to see one of the new locomotive engines in operation, which was recently imported from England for the railroad belonging to the Delaware and Hudson Canal Company." (From the Diary of Philip Hone.) That was the "America", whose steam engine exploded in trials, a too-common occurrence in the days before the pressure relief valve was invented. A \$3,800 purchase turned to shrapnel!



127. Tombstone of John V. Buberniak in Willow View Cemetery, Clifford, PA; photo by the author on May 24, 2020:



John Verlin Buberniak: Good friend and intellectual partner of the author for more than 35 years. His contributions to the history of the D&H are found throughout the 24 volumes by the author on the Delaware and Hudson Railroad. The complete text of John's history of the D&H, which was unpublished at the time of his death, is incorporated as a whole into Volume XXIV in SRP's 24-volume series on the D&H. John's death: At the funeral of his mother, Connie, as he was delivering a eulogy, John was struck with a cerebral hemorrhage and died shortly thereafter. Tombstone erected by Jack Buberniak at the burial site of the ashes of his wife and son.

128. Telegraph on the Jefferson Branch of the Erie Railroad from Carbondale to Lanesboro completed December 16, 1872; fact learned by Mike Bischak and shared with the author on May 28, 2020:

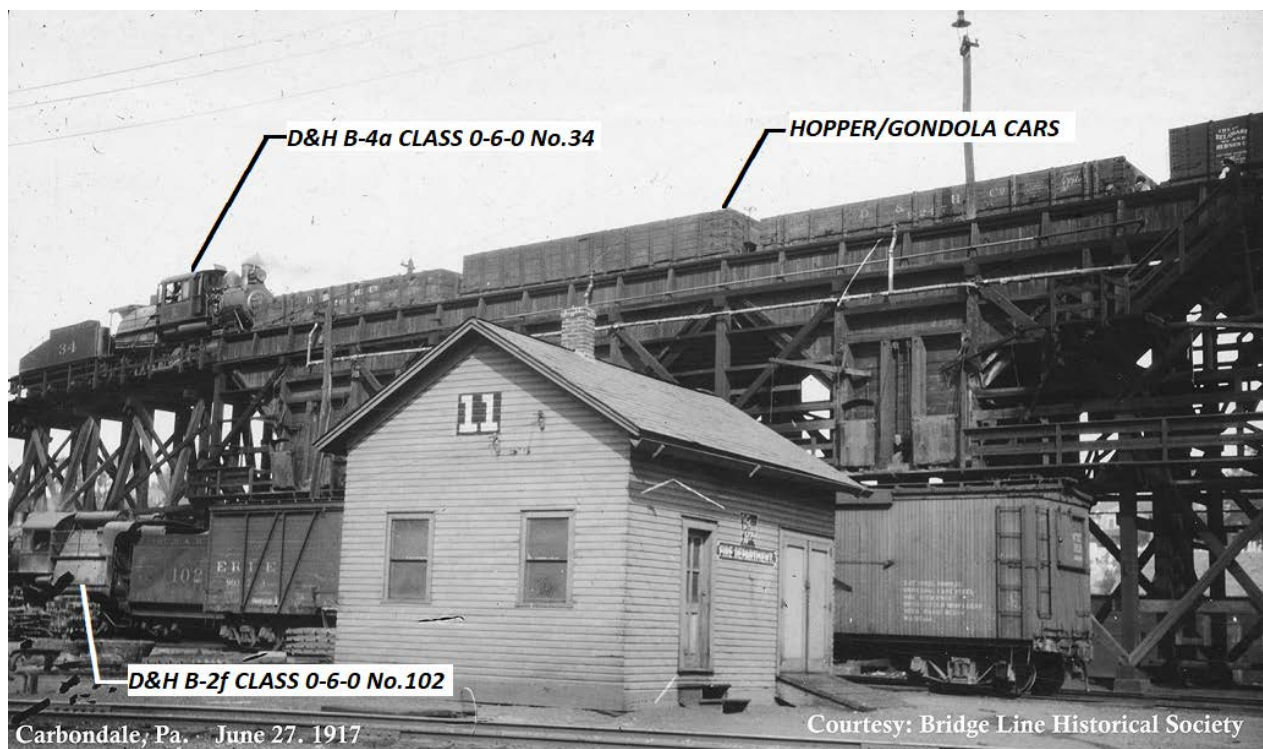
Sent: Wednesday, May 27, 2020 10:03 AM

Subject: D&H Canal Telegraph

C X S CANAL TELEGRAPH, Journal of the Telegraph, vol 6, page 19, Dec 16, 1872:

“The Delaware & Hudson Canal Company has recently completed a new line of telegraph from Carbondale, Pa, to Susquehanna, Pa, thus connecting its lines from Honesdale south with the line from Binghamton to Albany. NM”

129. *Two photos, with Identification Labels, of the D&H Carbondale Yard; photos from Stacy Gardner, May 28, 2020:*



View looking east at the west side of the coaling and sand trestle located just above the roundhouse. Note D&H No.34 pushing a consist of coal hopper cars and positioning them over four of the five coal pockets on the trestle. Building No.11 is the Fire Department which is positioned next to the one of the ash pits.

**D&H RAILROAD
CARBONDALE, PA.
BLDG. No.11 - FIRE DEPT.
CARBONDALE RR YARD
1917**



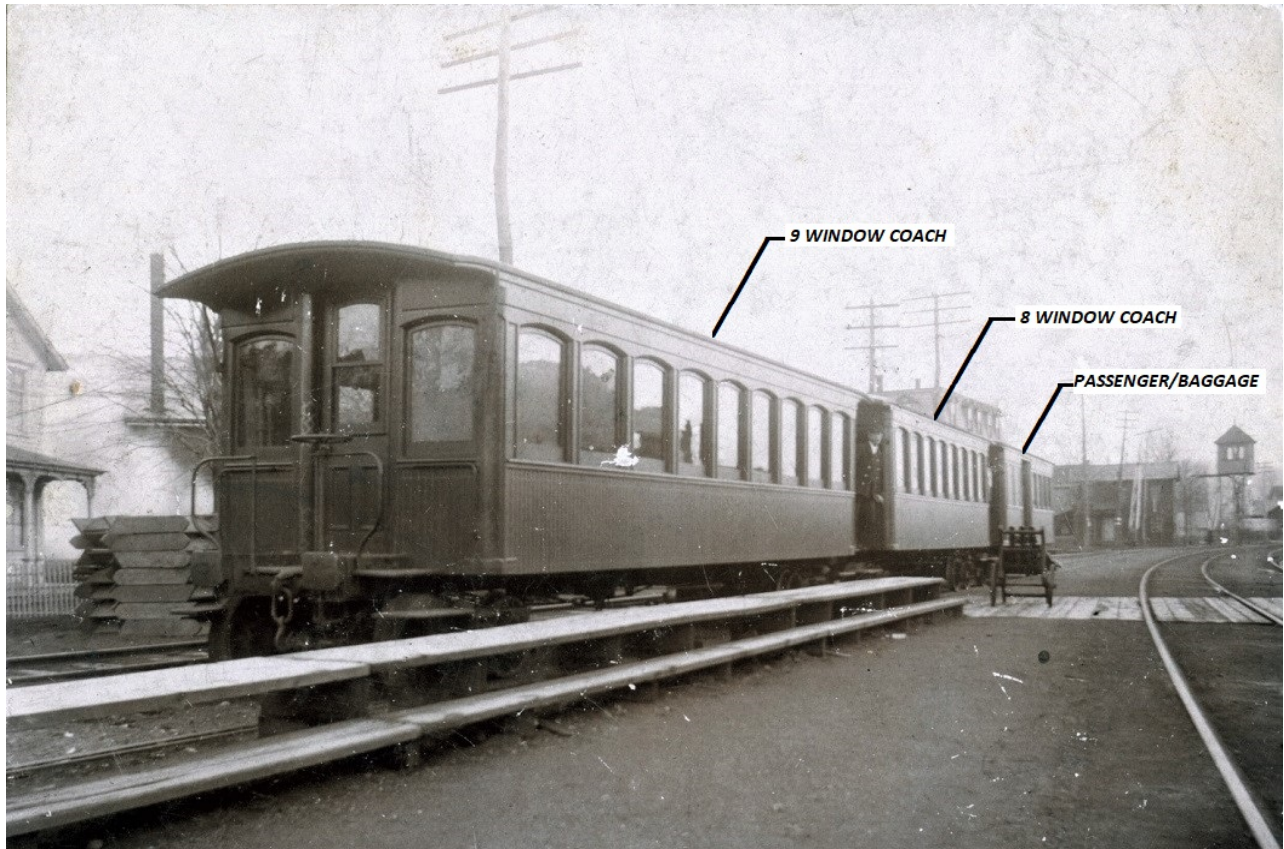
View looking south across part of the D&H RR Yard located in Carbondale and the variety of anthracite coal laden hopper cars from several different railroads to include the Reading RR, Pennsylvania RR, Northwestern RR, Delaware & Hudson RR, and a rare view of one of Michigan's premiere railroads the "Pere Marquette". The coaling crane depicted could be the one that the D&H purchased from Mohawk, New York in 1930.

D&H RAILROAD Co.
CARBONDALE, PA.
CIRCA 1930

130. Photos of Keen and Prompton on the Honesdale Branch of the D&H; copies of BLHS photos from Mike Bischak, May 31, 2020:



131. D&H 9-window passenger coaches; photos with identification labels from Stacy Gardner, May 31, 2020:



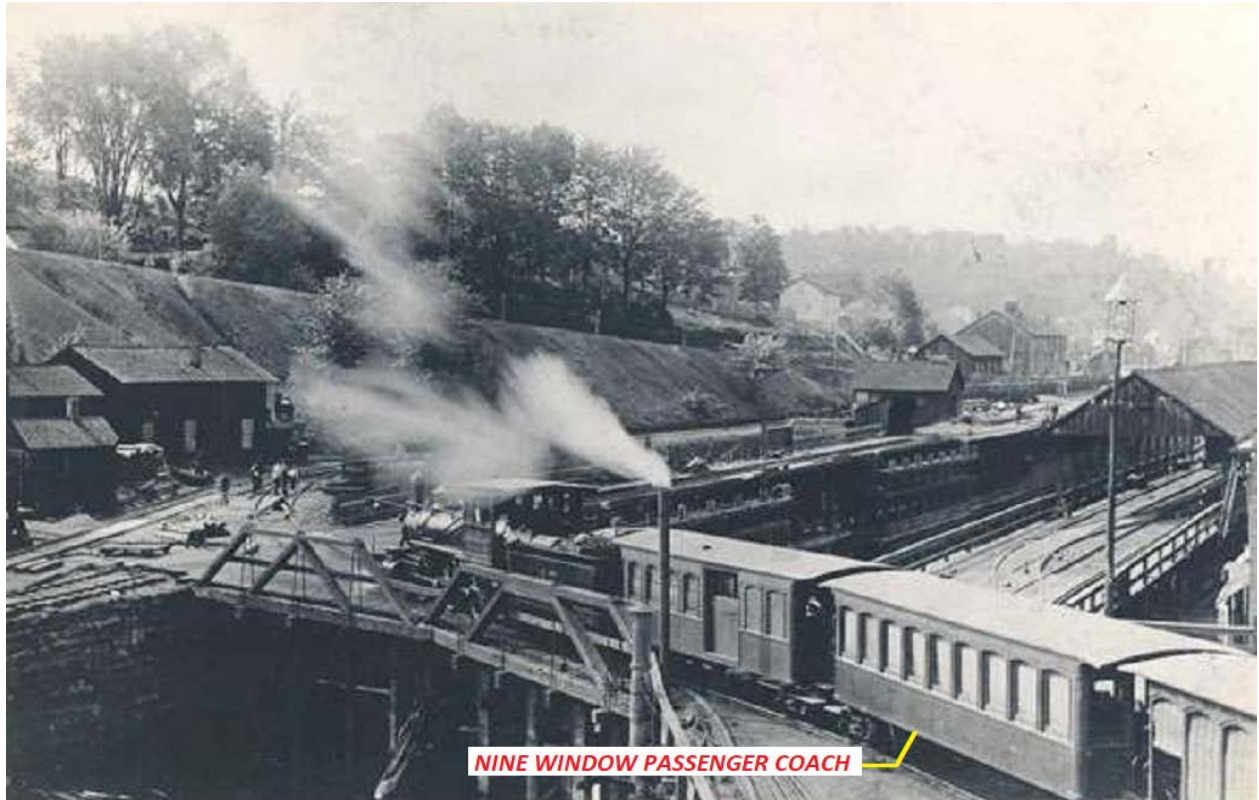
***D&H CANAL Co. RAILROAD - UNION GRAVITY RR STATION - CARBONDALE, PA.
CIRCA 1890s***

PHOTO: CLIFT COLLECTION courtesy HANK LOFTUS



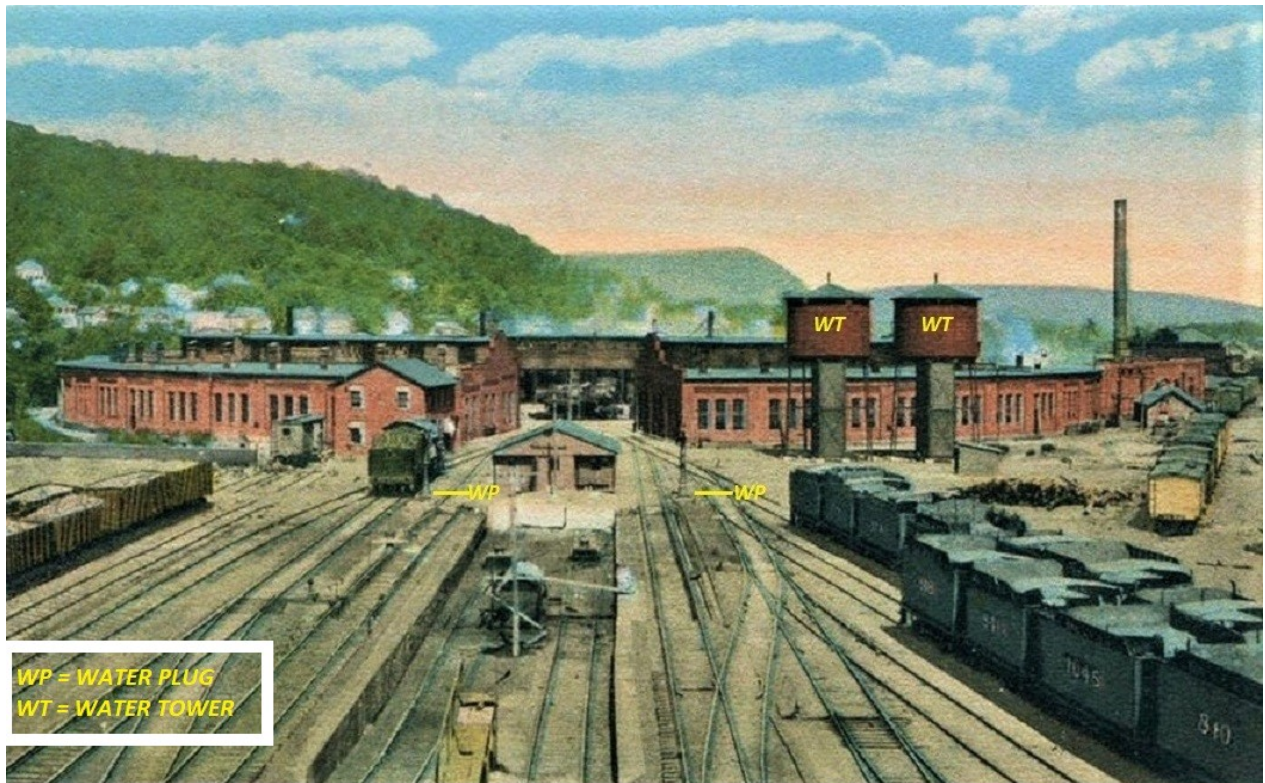
D&H CANAL Co. RAILROAD - FARVIEW GRAVITY RR STATION - FARVIEW, PA.

CIRCA 1890s



D&H CANAL Co. RAILROAD - HONESDALE, PA. - CIRCA 1899

132. *Oneonta Roundhouse*; photo with identification labels by Stacy Gardner, May 31, 2020:



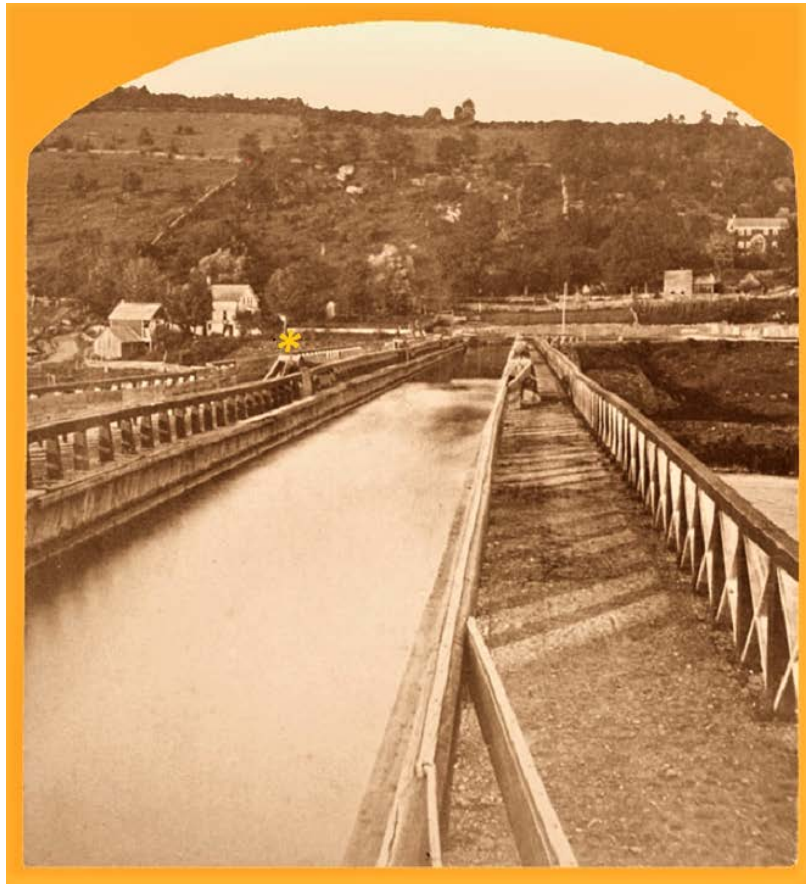
Looking east at the ash pits and roundhouse at the D&H's Railroad Yard and Shops at Oneonta. The roundhouse is said to be one of the largest (52 stalls) in the world. Of note here is the lack of activity - no locomotives being cleaned out, no lines of ash pit cars and all the engineless locomotive coal tenders seen on the right side of the photo. Also of note is the new building off the backside of the ash pits.

**D&H RAILROAD Co.
ONEONTA, NEW YORK
"ROUNDHOUSE"**

CIRCA 1920s

PHOTO: EBAY POSTCARD

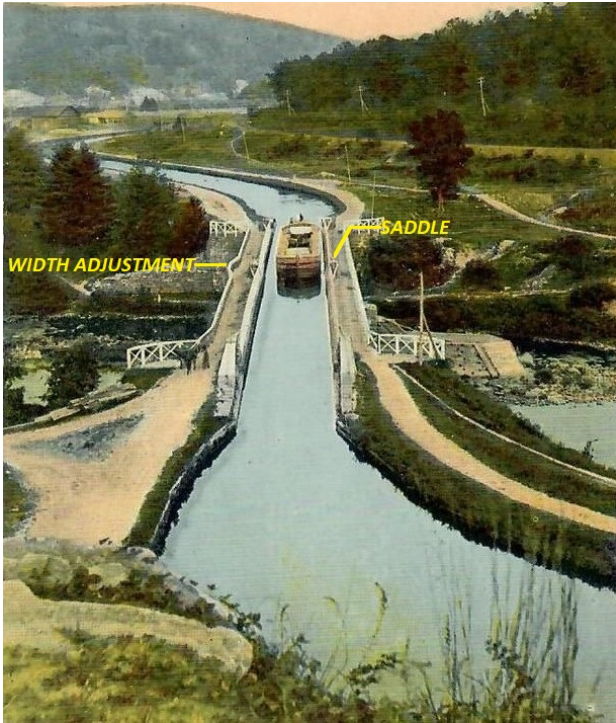
133. *Delaware Aqueduct and Lackawaxen Aqueduct*; photos with identification labels by Stacy Gardner, June 4, 2020:



**D&H CANAL Co.
"DELAWARE AQUEDUCT"
LACKAWAXEN, PA.**

CIRCA 1880s

View looking across the aqueduct from the Pennsylvania side to the New York side. Of note here is the "SADDLES", atop the piers, protrude above the towpath on both sides of the aqueduct and restrict the towpath's width by at least fifty percent. This restriction would require, especially on loaded northbound canal boats, some adjustment of the tow team to navigate these sections of the aqueduct. It should be noted that on the Lackawaxen River Aqueduct an adjustment was made going around the "SADDLE" on the south side of the aqueduct to maintain a consistent towpath width on it's one side.



***D&H CANAL Co.
"LACKAWAXEN AQUEDUCT"
LACKAWAXEN, PA.
LATE 1890s***

Note the adjustment made to the south side of the aqueduct to maintain the towpath width.

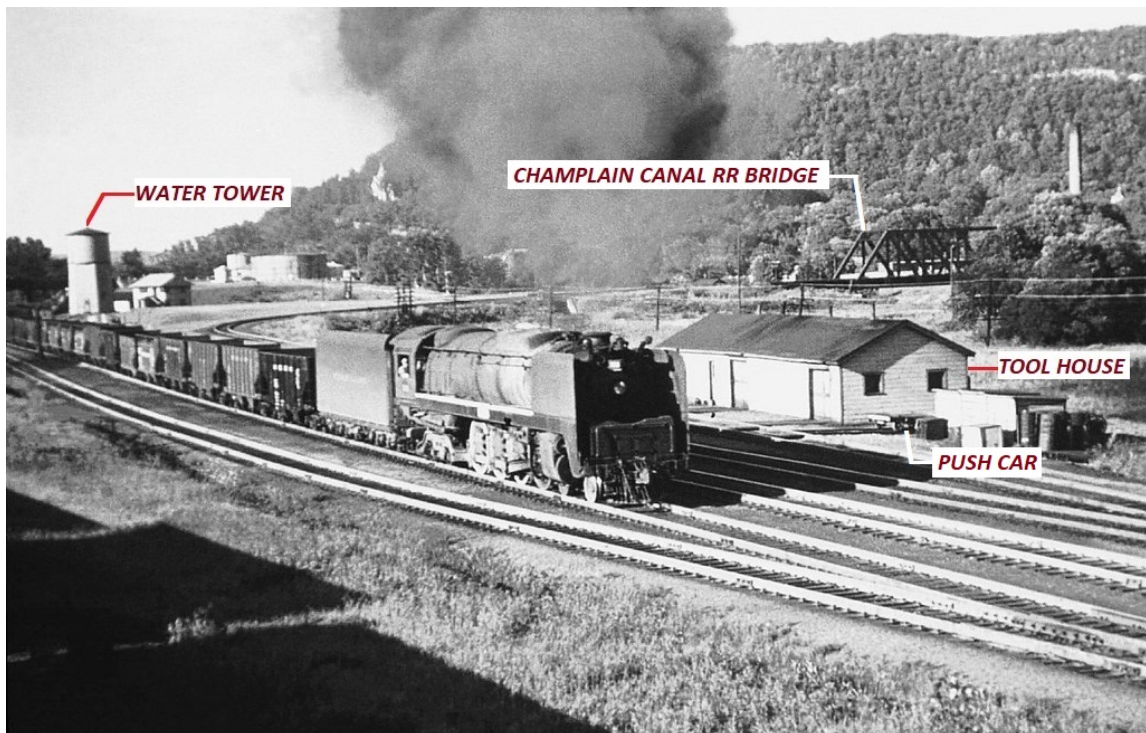
134. *Neversink Aqueduct*; identification labels by Stacy Gardner, June 13, 2020:



Looking northeast towards Lock No.51 (Aka Hoag's Lock & The Pie Lock) where we see two loaded canal boats waiting to enter the lock and another loaded canal boat that has just crossed the aquaduct and is heading in their direction. No doubt that all three of these boats will stay nose to tail for the next fifty locks that they will need to negotiate till they hit tidewater at Eddyville.

**D&H COAL CANAL
NEVERSINK AQUEDUCT
NEW YORK
CIRCA 1880s**

135. *Whitehall Section Tool House*; photo with identification labels by Stacy Gardner, June 13, 2020:

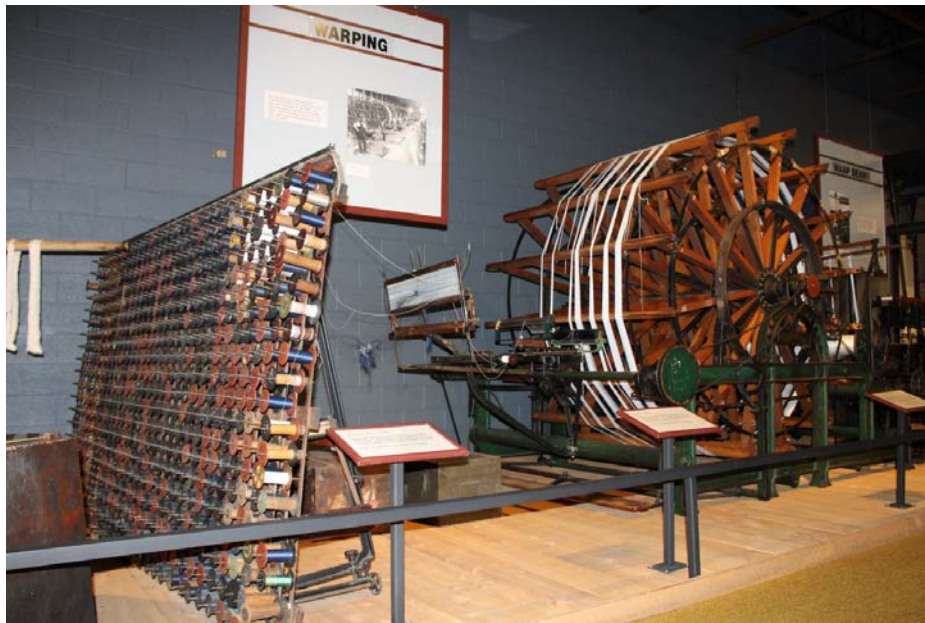


D&H ALco built K-62 Class 4-8-4 No.314 leads a consist of hopper cars past the section tool house located just north of the railroad yard and station at Whitehall. The section tool house has two sets of tracks for storing MOW hand cars or speeders.

PHOTO: SYLVAIN ASSEZ'S COLLECTION

**D&H RAILROAD
WHITEHALL, NY
"SECTION TOOL HOUSE"
1952**

136. *Silk and Lace in the Anthracite Coal Fields*; posted on Facebook, June 15, 2020 by the Anthracite Heritage Museum:



After 1880, lace and silk manufacturers moved into the Anthracite Region of Northeastern Pennsylvania. The intent was to take advantage of the cheap labor advertised by local civic groups—the wives and daughters of miners. Silk mills offered girls and women a series of age-graded jobs, much like those found in the breakers and mines for boys and men. Wages for a 10-hour day in 1907 ranged from \$0.53 for unskilled positions to \$1.08 for the most skilled women’s jobs in the mills. Youngsters began work at eleven or twelve as bobbin hands or lacers, moved up to positions as winders and doublers, and in their late teens or early twenties became weavers, edge warpers or forepersons.

Prior to 1920, 60% of silk workers were unmarried women in their teens and twenties, living with their parents and contributing to family income.

After 1900, silk weaving establishments opened. The anthracite silk industry grew to nearly 200 companies by 1910, employing more than 20,000 women and 5,000 children. By 1914, Pennsylvania surpassed New Jersey as the leading silk producing state in the nation. In time, the region processed more than 75% of the raw silk used in America.

The warping machine in this photograph was used to transfer organzine, the tightly woven fabric, from spindles to a large roller called a warp beam. Once full, the beam was removed and placed on a loom to provide a continuous supply of yarn so that long bolts of fabric could be woven. The warping machine and its creel are just two of many silk industry machines on exhibit at the Anthracite Heritage Museum.

137. "The Two Trestles on the Jefferson Branch of the Erie Railroad" by S. Robert Powell (*BLHS Bulletin*, July 2020, pp. 12-15, 17, 21):

For the Record
The Two Trestles on the Jefferson Branch of the Erie Railroad
by S. Robert Powell, Ph.D.

In December 1868, Bryce R. Blair was appointed chief engineer in charge of constructing the Jefferson Branch of the Erie Railroad from Carbondale to Jefferson Junction. Work on the line began in May 1869, and the line was completed and opened on October 10, 1870. The cost of construction was two million dollars.

Blair, it should be noted, was one of a large number of persons of Scottish descent who were major figures in the history of the Delaware and Hudson Railroad and anthracite mining in northeastern Pennsylvania in the nineteenth and twentieth centuries. Other notable Scotts in those two fields include James Archbald, James Clarkson, Archibald Law, J.H. McAlpine, Thomas Dickson, Alexander Bryden, John Hosie, John Jermyn, Silas A. McMullen, Silas K. McMullen, Coe F. Young, and Horace G. Young.

On the 34.6-mile long steam locomotive line that Bryce R. Blair and his team constructed from Carbondale to Jefferson Junction, there were two remarkable trestles. As we look at trestles on the Jefferson Branch, it's important to keep in mind that a *bridge* is a structure that connects two or more points allowing access across railways, rivers, streams, and ravines. A *trestle* is a framework structure that some long bridges are built upon. That framework consists of vertical, slanted and cross pieces that are used to support the bridge.

The Jefferson Branch began at the north end of the D&H Carbondale yard, at West Carbondale, and headed north, passing under the automobile viaduct at Simpson, and continuing north, running parallel with Jefferson Street for a short distance, on the west shore of the Lackawanna River. Just a short distance north of that point, a little to the north of where Panther Creek flows into the Lackawanna River, the rail line crossed from the west shore of the Lackawanna River to the east shore on a bridge, which still exists. That bridge is *Bridge No. 10*, and is shown in on the bottom of page 17, taken by Mike Bischak on June 16, 1977, shows D&H 7324 at Old Slope/ Simpson,

with the train heading south toward the Carbondale Yard.

Heading north, the rail line crossed the Lackawanna River on three additional bridges before arriving at Vandling. Continuing north, at about a mile and a half south of Ararat, and at the north end of Romobe Lake, the rail line crossed the first of the two trestles on the line, at Sinkhole Swamp. This trestle, over which the cars were said to move very slowly, was known as *Trestle 3½*. This trestle was built on a curve and was said to be "a model of modern engineering skill".

We have never seen any photographs of the trestle that crossed the Sinkhole Swamp, but a lot has been written over the years about this trestle, which was the source of a lot of problems for the Erie and the D&H, even before the rail line opened in October 1870.

Construction of the line was begun in 1869. The contractor who built the Jefferson Branch through the Ararat section of the rail line, Sections 17-18-19-20, was Evans and Robins. Work on Sections 18-20 was completed early in May 1870. Work on Section 17, "the Summit and the heaviest work on the road", was not completed at that time, primarily because of the difficulties encountered by Evans and Robins in establishing a rail line through the Sinkhole Swamp area.

A detailed description of a trip over the Jefferson Branch of the Erie, from Carbondale to Susquehanna and then on the Erie's main line to Binghamton, was published in the *Carbondale Advance* of August 4, 1877, p. 3: "There is a sawmill and post-office here [Ararat Summit], but the houses are few and far between. Near here is the longest trestling on the road [*Trestle 3½* over Sinkhole Swamp]. It is built on a curve, and is a model of modern engineering skill. The cars run very slow over these high works, and some timid persons breathe freer when they are crossed".

During construction of the rail line in 1869, the following article about construction operations at Ararat Summit and at Sinkhole Swamp was published in the

Susquehanna Journal (reprinted in the *Carbondale Advance* of August 28, 1869, p. 3):

"JEFFERSON RAILROAD — The heaviest cut on the road is at Ararat Summit. For the distance of fourteen hundred feet, or one-fourth of a mile, the excavation is entirely of earth, which is being removed on cars running on a temporary track to the south, forming an embankment for the road across the long marsh. There are about one thousand men employed on the road".

Two years later, in 1871, after the Jefferson Branch had opened, the Sinkhole Swamp area was still a source of trouble. A solid rock bed for the rail line had still not been attained:

"Jefferson Railroad Summit. / The small swamp on the line of the Jefferson Railroad, near the summit, about 18 miles north, is still a source of trouble. The necessity of a solid road bed there seems to be yet unattained. Immense quantities of gravel and culm have been dumped there, and still the track settles. Bottom will undoubtedly be finally reached, but more work is yet required". (*Carbondale Advance*, March 18, 1871, p. 3)

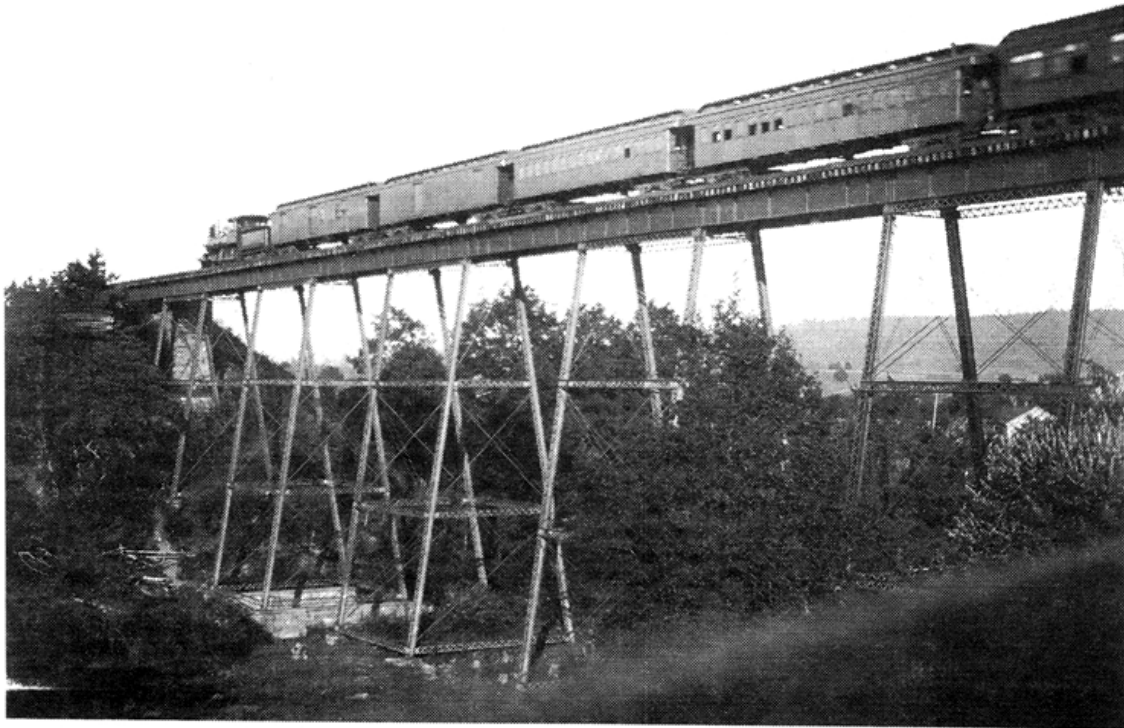
The numerous landslides on the Jefferson Branch during the spring thaw in 1871 were all loaded into cars and dumped in the Sinkhole Swamp in an effort to establish a solid bed for the rail line there: "*Land Slides.* / The spring thaw has produced numerous landslides in the deep cuts on the Jefferson railroad. This material, when loaded into cars, can all be used in the swamp to good advantage". (*Carbondale Advance*, March 18, 1871, p. 3)

continued on page 14

Page 13:

Top: The Little Starrucca trestle of steel, with an Erie train. Photo provided by Dr. S. Robert Powell; from the Milo Gardner collection at the Carbondale Historical Society.

Bottom: D&H's Little Starrucca bridge 11.65; photo by Mike Bischak. See Dr. S. Robert Powell's article in this issue.



For the Record from page 12

The many landslides on the Jefferson Branch during the spring of 1871 delayed the opening of the Jefferson Branch in that year: "Land Slides on the Jefferson. / We understand that the work of clearing the deep cuts on the Jefferson R.R., north of us, has been so extensive that trains have not yet reached the swamp on the summit from this place. It will take some weeks yet to get the line in good running order". (*Carbondale Advance*, April 1, 1871, p. 3)

Thirteen years after the opening of the Jefferson Branch (the line opened in 1870), the D&H was still having problems at Sinkhole Swamp: "Trestle 3½ on the Jefferson Branch is causing the Erie company considerable trouble, or to use an old expression, more trouble than it is worth. The trestle is quite a high and long one, and is built over a swamp or overgrown lake. Its foundation is one of the strongest, and on several occasions, the trestle has sunk some little way into the swamp. Lately the Erie Co. conceived the idea of filling in their trestles on the Jefferson Branch with culm, but when they came to fill Trestle 3½, they found they had an elephant on their hands, in other words the swamp did not take kindly to culm and refused to be filled. The weight of the culm appears to have forced the trestle lower than ever, and one veracious engineer says the stumps of trees on both sides of the track are leaning at quite an angle towards the trestle. The opinion is very freely expressed that some other way of making the trestle safe will have to be devised, other than that of filling with culm". (*"Railroad Matters", Carbondale Leader*, February 23, 1883, p. 2)

Many years later, when the Sinkhole Swamp had finally been subdued, a siding on the D&H main line was established in this area. A photograph taken in October 1950 by Bob Malinowski of D&H Challenger #1534 at the head of a 78-car train passing "Sink Hole Siding on the D&H mainline near Ararat" served as the November calendar page photo in the Lackawanna & Wyoming Valley Railway Historical Society's 1993 calendar.

In "Final Report January, 2002 Chapter 7 2 - Description of the Watershed, Chapter 2, Description of the Upper Lackawanna Watershed, Physical Setting of the Upper Lackawanna Watershed", on

page 31, we read the following about the Sinkhole Swamp, which is part of the Upper Lackawanna Watershed, which encompasses 56 square miles, or about 14 percent of the entire Lackawanna River basin, which extends for 350 square miles to the Susquehanna River:

"Sinkhole Swamp. This swampy tract along the former Jefferson Branch Railroad (currently the D&H Rail Trail, and before that, the D&H main line), about a mile south of Ararat, marks the site of an interesting engineering failure at the time of the original construction of the line. With no thought about possible adverse foundation conditions, a large earthen or coal ash embankment was quickly thrown across a swamp at the north end of Robobe Lake. The muddy and organic swamp sediments were apparently so impermeable to water movement that the heavy embankment floated on its insubstantial foundation for several months after the initial opening of the railroad in September of 1870, but then suddenly collapsed (in November), as if into a bottomless pit. The entire embankment was lost. Subsequent test piles into the swamp found the hard bottom to be more than 160 feet below ground level. (The swamp apparently marked the former site of a large glacial ice block, the original deep kettle-hole pond having filled in with soft sediment in the thousands of years since the block melted.) The railroad was closed for four months while a new, more substantial embankment was constructed".

The second trestle on the Jefferson Branch was 7.5 miles north of the Thompson station. This trestle, called by many "Little Starrucca", was 86 feet high and 480 feet long, across the Buck Creek ravine. The Erie Railroad identified this bridge as "Trestle No. 2, Jefferson Branch". On D&H valuation maps, this bridge is identified as "Bridge 11.65" (11.65 is the mileage from this site to Jefferson Junction). **Mike Bischak's** photo on page 13 (bottom) shows the structure.

Page 21 in this issue shows the Specifications (Side View and Center Line Profile) of *Little Starrucca*, produced by the Erie Railroad in 1944 when new shims (see page 17 top) were applied to the bridge. Both photos came from **Mike Bischak**.

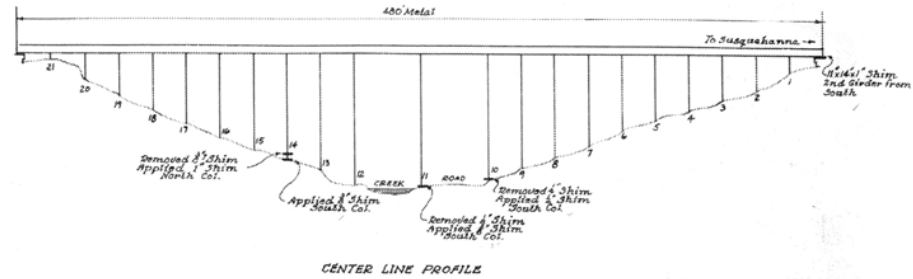
On page 13 (top) is a photograph of *Little Starrucca* that is in the Milo

Gardner collection at the Carbondale Historical Society. This may well be the oldest photograph in existence of this trestle. Notice the very early engine (possibly a Baldwin 4-4-0) at the head of this train, in which there are a baggage car, a mail car, and three or more passenger coaches. The trestle shown here is made of steel.

On May 9, 1879, a fearful accident took place on this trestle. In an article published in the *Carbondale Advance* on May 17, 1879, p. 3, about this accident: "**Fearful Accident on the Branch.** / A shocking accident occurred on the Jefferson Branch, about twenty miles north of this city, on last Friday night, at about half past eleven o'clock, resulting in the death of Michael Murphy, of Lanesboro, and very serious injuries to Conductor S. T. Palmer, and George M. Stewart. / Conductor Palmer left Susquehanna for Carbondale at 9 P. M. with a train of upwards of 120 empty coal cars, with an engine at both ends, being what is called a 'double header'. They proceeded without accident until they arrived near Thompson station. There the engine acting as pusher seemed to crowd upon the train, and the third car in front of the caboose is supposed to have then mounted the rail. But it kept the track until they arrived at the high trestling east of Thompson station, when it broke loose from the train and fell from the trestling, taking with it two other coal cars and the caboose, in which were Conductor Palmer, flagman Stewart, and fireman Murphy. The distance to the ground is there from forty to forty-five feet. The caboose turned over, and containing fire and lamps, was immediately wrapped in flames. A fiery death seemed inevitable, but they all escaped alive, from the terrible danger. / Murphy was taken back to his home in Lanesboro, and Messrs. Palmer and Stewart brought to their homes in this city. / Mr. Palmer's injuries are very severe burns on his left arm and hand, chest, shoulders, and face, with bruises and a general shock of the system occasioned by the fall of forty-five feet. / Mr. Stewart had the left hip dislocated, and the cap of the joint fractured, his right arm broken, but much less severely than Mr. Palmer. / Both are made as comfortable as possible after the severe injuries they have received, and we are glad to state that there is a good prospect of their recovery". (*Carbondale*

Top: Erie RR, Jefferson Div. / D&H. Susquehanna bridge shims diagram, 1944. Courtesy of Mike Bischak and Dr. S. Robert Powell.

Bottom: D&H 7324 a D&H freight leads on Bridge #10 at Old Slope, Simpson, PA. June 16, 1977 photo by Mike Bischak.



BILL OF MATERIAL USED

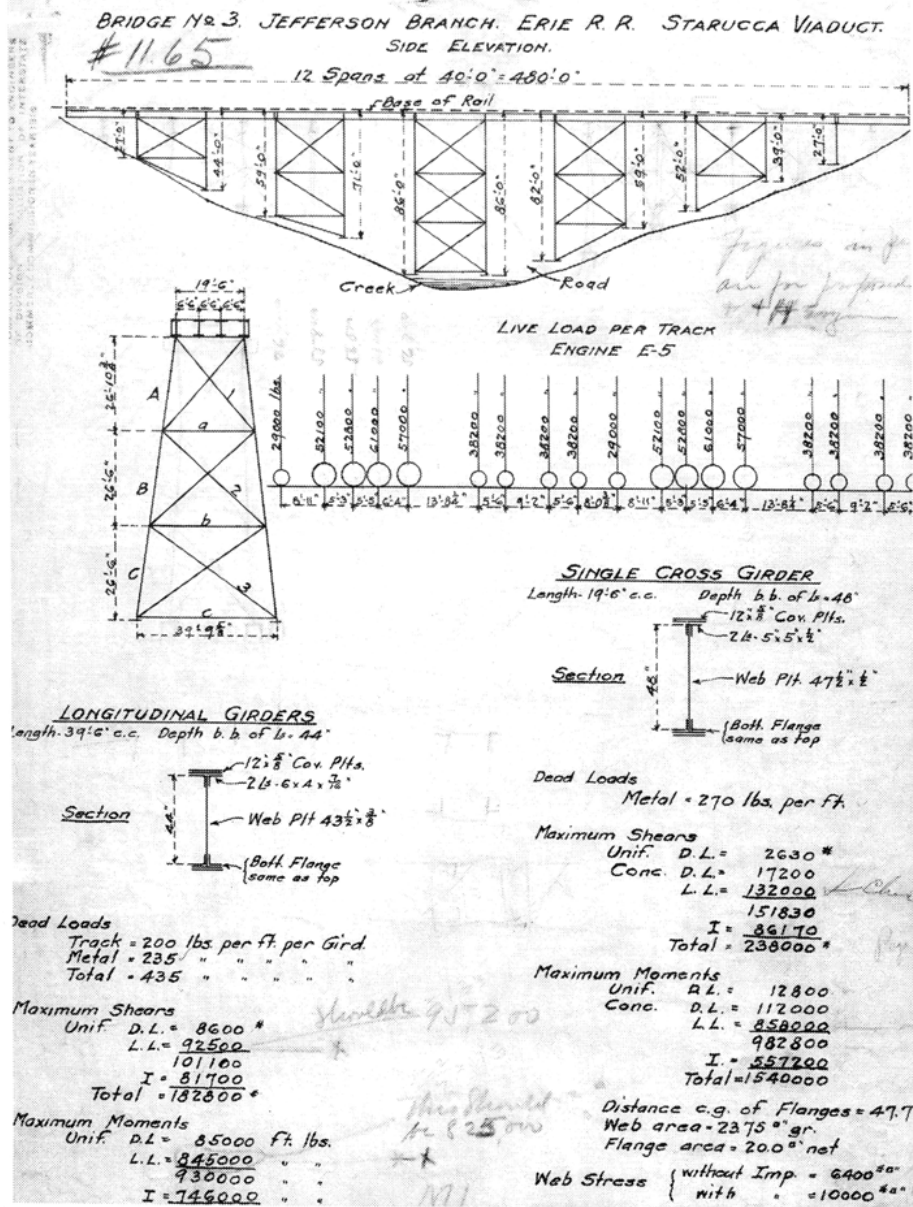
1	DL	11' 14' x 1"	44	Lbs
1	DL	35' x 35' x 1/2"	174	"
1	DL	35' x 35' x 1/2"	150	"
1	DL	35' x 35' x 1/2"	214	"
1	DL	35' x 35' x 1/2"	84	"
Total				512 Lbs

C No. C. 2261	
DATE COMPLETED 10-20-66	
ANY CHANGES	
Frank Cepeda BRIDGE FOREMAN	
WORK O.K. TITLE	
APPROVED	
ENGINEER OF STRUCTURES	

ERIE RAILROAD CO.	
DIVISION Jefferson	
BRANCH	
VALUATION SECTION 30 Pa	
Replace & Apply	
New Shims	
BR. NO. 11. G.S. (3)	
MADE BY	TRACED BY J.W.W.
SCALE 1"=50' ft.	CHECKED BY J.M.S.
OFFICE OF ENGINEER OF STRUCTURES	
DATE 1-10-68	SHEET No. 1 OF 1



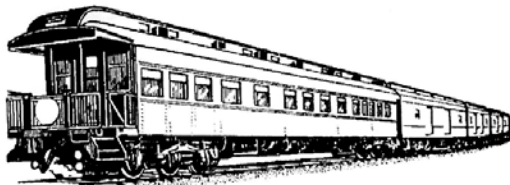
Erie RR Starrucca Trestle Specifications
(Side View and Center Line Profile).
Provided by Mike Bischak, via Dr. S.
Robert Powell.



Swap Shop from page 24



For sale : “History of the Delaware and Hudson Railroad”, by noted historian **Dr. S. Robert Powell**. Twenty-five volumes (e-books), containing more than 10,000 pages, with hundreds of photographs and maps. Many in-depth topics, complete with extensive documentation. \$25 per volume from Carbondale Historical Society; tel. 570-282-0385, carbondalepahistorical.org. (0520)



Open Platform Observations
by Steve Wagner

Comments on June 2020 issue of BLHS Bulletin



Dr. S. Robert Powell's fine account of stereopticon views of Carbondale brought back other memories. Some of the first photos of the D&H's more or less Spanish-style passenger station at Lake George Village were ones I looked at using a Viewmaster.

138. “The Anthracite Diaspora” by John Bifano gepifano@gmail.com; received June 24, 2020:

Subject: The Anthracite Diaspora

Message: Anthracite's Children


What makes all of us, those who have remained and those who became anthracite's Diaspora, so bound and so drawn to this 500 square mile area? Why are we so fiercely proud of our “coal cracker” heritage and culture? Is it the land? The land, and what lay beneath it, that shaped the communities and helped to forge the culture of the region. Is it the people who worked in the collieries extracting and processing coal, on the railroads or in other endeavors, our ancestors, whose livelihoods were inextricably tied to the fortunes of the land's harvest, anthracite? Those German, Welsh, Irish, Scottish, Polish, Lithuanian, Russian, Hungarian, and southern Italian immigrants who came seeking work only to find what Donald Miller called “the democracy of misery.” It was this “democracy of misery” which would unite all these nationalities under John Mitchell and the UMWA in the early 1900s. Labor unions, especially the early United Mine Workers, the Brotherhood of Locomotive Firemen and Enginemen and later the ILGWU, became the common denominator for the area's rich, ethnic mosaic in the struggle for dignity. While each ethnic group found solidarity and kinship with the others in the unions, each still maintained its individual customs and traditions. And, when the land's harvest was no longer needed and its laborers no longer wanted, it was the tradition of solidarity, the strong sense of community, and the shared sacrifices, sorrows and joys that held the people together, that strengthened their resilience and self-reliance. It's sadly ironic that this area, our home, which contributed so much to the nation's industrial might for so long, has received so little in return. The cruelest legacy of the region, however, isn't that anthracite and its profits flowed out of the region to New York and Philadelphia to fuel and finance the Industrial Revolution, but that so many of its people were forced to leave. Although many of us belong to the Diaspora, most, if not all, of us, like those who have remained or returned, maintain an abiding love for the area. We are the land's richest harvest, anthracite's children, and may we always carry with us and pass on those values of family, faith, friendship and hard work we learned from our parents and grandparents.--John Bifano

139. Dr. J. G. Harper killed, August 24, 1915, on D&H tracks at the Tenth Avenue crossing; clipping from Jason Smith, Honesdale, June 23, 2020:

**DR. J. G. HARPER
IS KILLED ON
D. & H. TRACKS**

**Well Known Carbondale Physi-
cian Meets Death While
Driving Auto.**

CARBONDALE, Aug. 24.—Dr. J. G. Harper, one of this city's best known professional men, was fatally injured this afternoon at 5:20 o'clock, while on his way to visit a patient, when the automobile in which he was driving was struck by the passenger train on the Honesdale branch of the Delaware and



DR. J. G. HARPER.

Hudson railroad, due in this city at 5:30 o'clock. The accident happened on the Tenth avenue crossing. Dr. Harper's skull was fractured, he suffered internal injuries and a fracture of the arm. He died at Emergency hospital at 8 o'clock without regaining consciousness.

The accident occurred during a blinding rain storm. According to eye witnesses the doctor was driving along Olive street and at Tenth avenue turned in to cross the tracks. Owing to the heavy downpour of rain he had the side curtains of the machine down and the windshield was bespattered with rain which made it extremely difficult to see the approaching train. The machine had almost cleared the track when the engine bore down upon him.

The engine was running backward at the time, and it was the step of the tender that caught the rear end of the automobile, throwing it around to the engine, when it was still further bumped along the tracks. Owing to the fact that the engine was running backwards it was impossible for the engineer, Thomas McCawley, to see the approach of the machine until the crash occurred. The automobile was smashed into kindling.

BODY TAKEN TO CITY.

The train was brought to a stop within a short distance of where the crash occurred. The body was picked up and carried into the baggage car, after which the train continued on its way to the local station, where practically every doctor in the city was on hand to assist. The injured doctor was immediately conveyed to Emergency hospital where it was soon ascertained that death was but a matter of minutes.

The crossing at which the fatality occurred is one of the worst death traps in this section. Although it is a crossing used but little there has been no less than three fatalities there within a few years' time. There is no electric bell, gates or watchman to warn people of the approach of a train.

Dr. Harper's death caused profound sorrow throughout the city and everywhere expressions of regret were heard. He was a man whose friends were legion and one who was ever ready to be of

assistance to those in distress.

Dr. Harper was born at Cookstown, Ontario, Canada, fifty years ago. He received his early education in the schools of Barrie, Ont., later entering Trinity college at Toronto, where he graduated with the degree of doctor of medicine. Later he took a post-graduate course at the Woman's hospital in New York, and upon its completion started the practice of his profession in Michigan. In 1887 he located in Waymart. Three years later his health started to fail and he left for California, where he remained for several years. Upon his return he located in Carbondale and had been a continuous practitioner here for over twenty years.

He was a member of the County, State and National associations. He was also a member of the local lodge of Masons, the Knights Templar and the Shriners.

Besides his wife he is survived by the following brothers and sisters: Mrs. E. T. Hart, of Montreal; Mrs. B. Ross, of Barrie, Ont.; Rev. Frank Harper, of Clinton, Canada, and William F. Harper, of New York.

Certificate of Death for Dr. James G. Harper:

Form V. S. No. 5-50M. 4-15-13.

1. PLACE OF DEATH.
 County of Lackawanna
 Township of
 or
 Borough of
 or
 City of Carbondale (No. Emergency Hospital St. 1 Ward.)

CERTIFICATE OF DEATH.
 Registration District No. 598
 Primary Registration District No. 34
 File No.
 Registered No. 278

2. FULL NAME Mr. James G. Harper

PERSONAL AND STATISTICAL PARTICULARS

3. SEX Male
 4. COLOR OR RACE White
 5. SINGLE, MARRIED, WIDOWED OR DIVORCED Married (Write the word.)

6. DATE OF BIRTH Mar. 6, 1865
 (Month) (Day) (Year)

7. AGE 50 yrs. 5 mos. 18 ds.
 If LESS than 1 day how many hrs. or min.?

8. OCCUPATION
 (a) Trade, profession, or particular kind of work Medical
 (b) General nature of industry business, or establishment in which employed (or employer)

9. BIRTHPLACE (State or Country) Canada

PARENTS

10. NAME OF FATHER Henry Harper
 11. BIRTHPLACE OF FATHER (State or Country) Canada
 12. MAIDEN NAME OF MOTHER Margaret Blair
 13. BIRTHPLACE OF MOTHER (State or Country) Canada

14. THE ABOVE IS TRUE TO THE BEST OF MY KNOWLEDGE.
 (Informant) Mr. James G. Harper
 (Address) City

15. Filed Aug. 27, 1915
H. G. LIKELEY
 Local Registrar

MEDICAL CERTIFICATE OF DEATH

16. DATE OF DEATH Aug. 24, 1915
 (Month) (Day) (Year)

17. I HEREBY CERTIFY, That I attended deceased from 191... to 191...
 that I last saw him alive on 191...
 and that death occurred, on the date stated above, at 7 M.
 The CAUSE OF DEATH* was as follows:
Run down by R.R. train
 (Duration) yrs. mos. ds.
 Contributory (SECONDARY) (Duration) yrs. mos. ds.
 (Signed) J. Norman White, M. D.
Aug. 24, 1915 (Address) Scranton, Pa.

*State the DISEASE CAUSING DEATH; or in deaths from VIOLENT CAUSES, state (1) MEANS OF INJURY; and (2) whether ACCIDENTAL, SUICIDAL, OR HOMICIDAL.

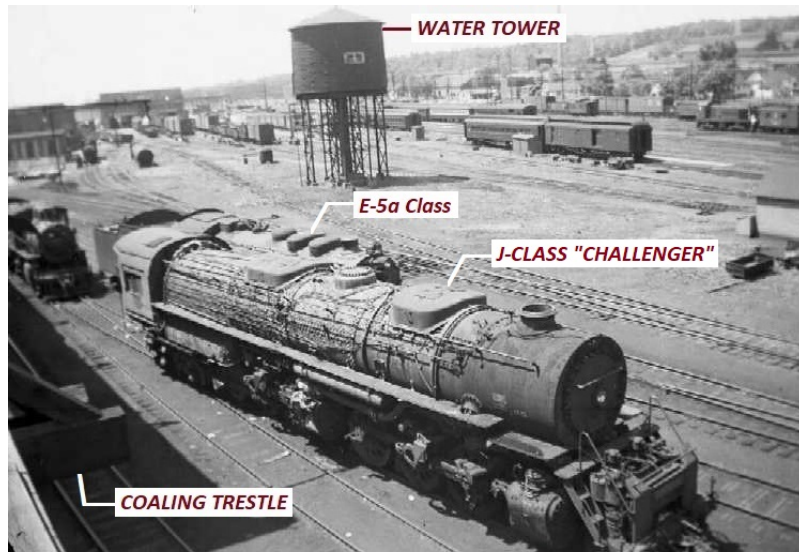
18. LENGTH OF RESIDENCE (For Hospitals, Institutions, Transients or Recent Residents).
 At place of death yrs. mos. 3 ds. In the 17 State yrs. mos. ds.
 Where was disease contracted,
 If not at place of death?
 Former or usual residence W. Lehigh St.

19. PLACE OF BURIAL OR REMOVAL Waymart, Pa.
 DATE OF BURIAL Aug. 27, 1915

20. UNDERTAKER Wm. J. McHale
 ADDRESS City

Important. See instructions on back of certificate.

140. *D&H Challenger at Colonie*, photo with labels by Stacy Gardner, June 25, 2020:



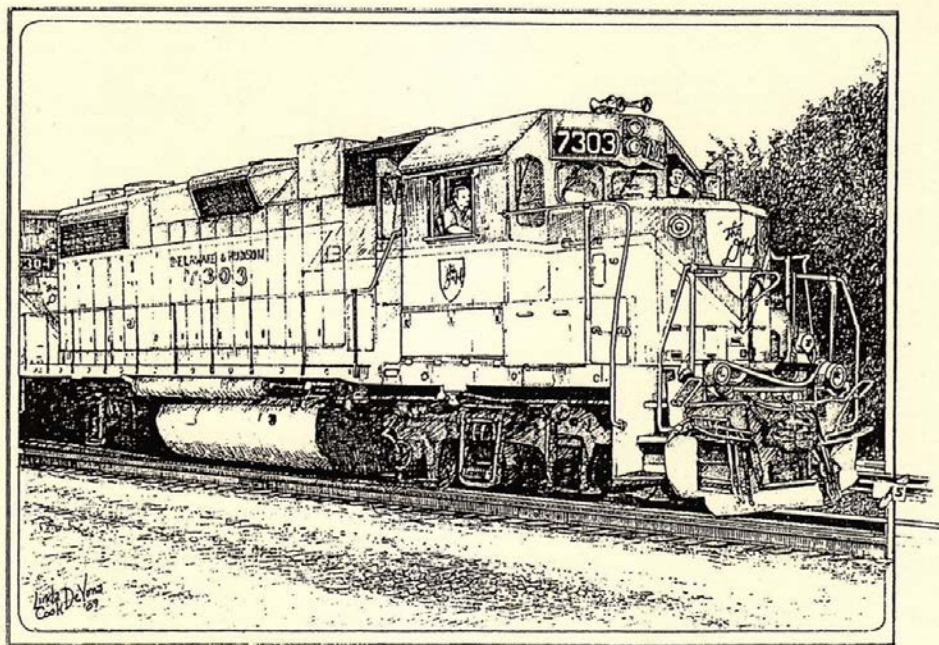
**D&H RAILROAD
COLONIE, NEW YORK
"RR YARD & SHOPS"**

CIRCA 1950

"At one time, 1,600 people worked at the Colonie Shops." Jim Shaughnessy

View looking southwest across the locomotive service tracks towards the mainlines off in the distance. A D&H J-Class 4-8-8-4 No.1521 is centered in the picture without it's tender and behind the No.1521 is a D&H E-5a Class 2-8-0 custom built at the Colonie Shops (with boilers built by ALco) between 1926 and 1930 - there were twelve locomotives in the class No.1111 thru 1122. Off and to the upper left of the photo are some of the car repair shops.

141. *Engraving of D&H No. 7303 by L. C. DeVona, Afton, NY 13730*. This engraving is on a notecard (from Larry Rine, Claremont, NH, to SRP) that was included with a digital copy of an audio file, that was recorded at the time of the D&H 150th Anniversary Celebration, that was sent by Larry Rine to SRP on June 26, 2020, for the archives of the Carbondale D&H Transportation Museum.



D&H No. 7303. This note card drawn and printed by L. C. DeVona, Farmhouse Greetings, Post Office Box 141, Afton, NY 13730.

142. *D&H Passenger Station, Lanesboro, PA.* Photo posted by Bob McCue on Facebook on July 1, 2020. See SRP's Volume XIX (*The Stourbridge Lion*), p. 285.

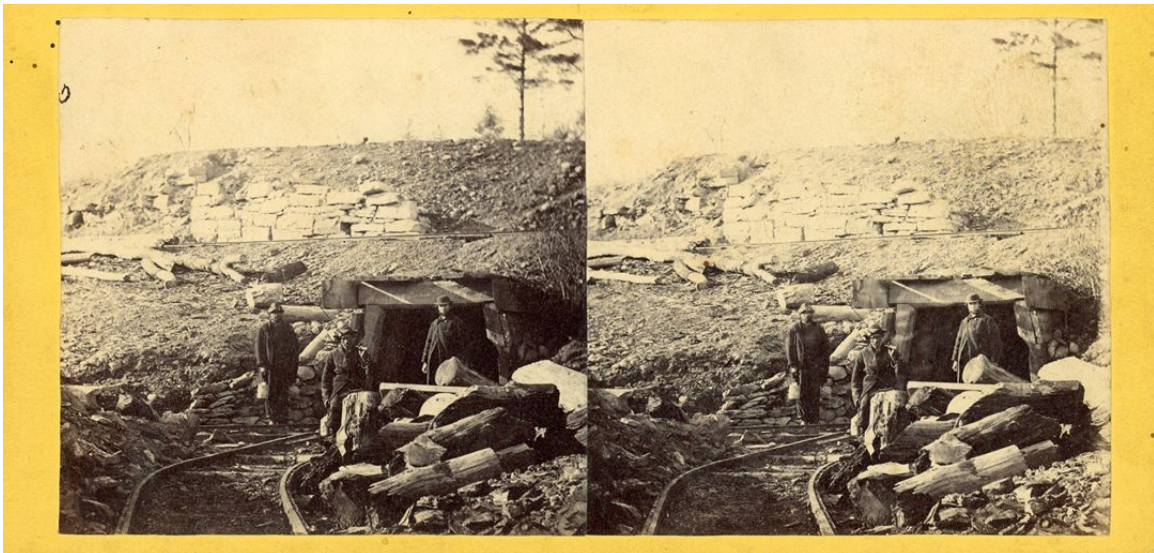


D&H Passenger Station at the Starrucca Viaduct, Lanesboro, PA. Photo by a professional photographer, whose identity has not yet been learned. This station was on the D&H Lackawanna and Susquehanna Railroad from Lanesboro to Nineveh. It was built in 1871 and removed around 1945.

143. Live video of trains passing both North and South over Ararat Summit:

www.youtube.com/watch?v=acYg8zWVmfU

144. Simpson stereocard; posted July 6, 2020, on Facebook by Kate Hopkins:



Pennsylvania Anthracite Heritage Museum photo

“This very rare Simpson view shows the entrance to a drift (Mine C) which runs underneath the loaded track of the Pennsylvania Coal Company Gravity Railroad near Plane No. 6 in Dunmore. This drift, together with two others and a slope, are still visible on the 2nd Pennsylvania Geological Survey map, dated 1888. The first drift was driven in 1856-7. The main Roaring Brook Breaker was a short distance away adjacent to the tracks of the Delaware, Lackawanna and Western Railroad.

The first shaft, known as the Spencer, was sunk in 1855. From this shaft, coal was shipped over the Lackawanna in 1858-60. In late 1863, the firm of Hunt, Davis and Company started building the Roaring Brook Breaker beside the railroad. A trestle 4,500 feet long connected the breaker to the Spencer shaft. By 1872, there was also a small breaker connected to the shaft tower, to serve the local coal trade. The original firm was dissolved in February 1865 and was replaced by the Roaring Brook Coal Company, which operated until 1881. The superintendent was J. R. Davis, who occupied the same position at the Mineral Spring mine. In 1883, a new breaker called the Spencer, was built about 1000 feet away from the old Roaring Brook breaker, but it also took coal from the Spencer shaft, and appears to have utilised part of the old trestlework. The Spencer breaker burned down on February 3rd, 1917 but was promptly rebuilt.”

145. *Starrucca Viaduct and Passenger Ferry*. Photo offered for sale on E-Bay on July 7, 2020:



146. “D&H Mule Barns Burn, April 1859”; *Evening Herald*, June 28, 1894, p. 5; found by Julie Esty on Newspapers.com:

“D&H Mule Barns Burn, April 1859”

“Another scene that is very vividly impressed on my mind is the burning of two Delaware & Hudson mule barns in April, 1859. The barns stood one on each side of Seventh avenue near where the depot is now. There were twenty-five mules in one barn and twenty-seven in the other and not one escaped. The screaming of the animals was something terrible and could be heard for miles. When the fire was discovered it was too far advanced for any one to enter the building, and the animals were so securely fastened that not one succeeded in tearing loose.” (*The Evening Herald*, June 28, 1894, p. 5: *Early Reminiscence. Patrick Powderly Tells Some Interesting Things.*)

147. *Archbald Passenger Train*; labeled photo from Stacy Gardner, July 14, 2020:



D&H ALco built (1903-1904) G-Class 4-4-0 No.446 leads a passenger train south past the 100 block of Spruce Street in Archbald. The train consists of (front to rear) a mail car, a baggage car, and three passenger coach cars. No.446 is a common site along this section of the line between Carbondale and Scranton. Note: All three of the houses seen in the photo are still present today with some minor modifications.

**D&H RAILROAD
ARCHBALD, PA.
OCTOBER 24, 1946**

PHOTO: C.A. BROWN

148. *Edgerton Colliery Map, 1885*; found by Dale Keklock's son, July 17, 2020:



149. Facebook videos produced by Bill Merchant at High Falls D&H Canal Museum:

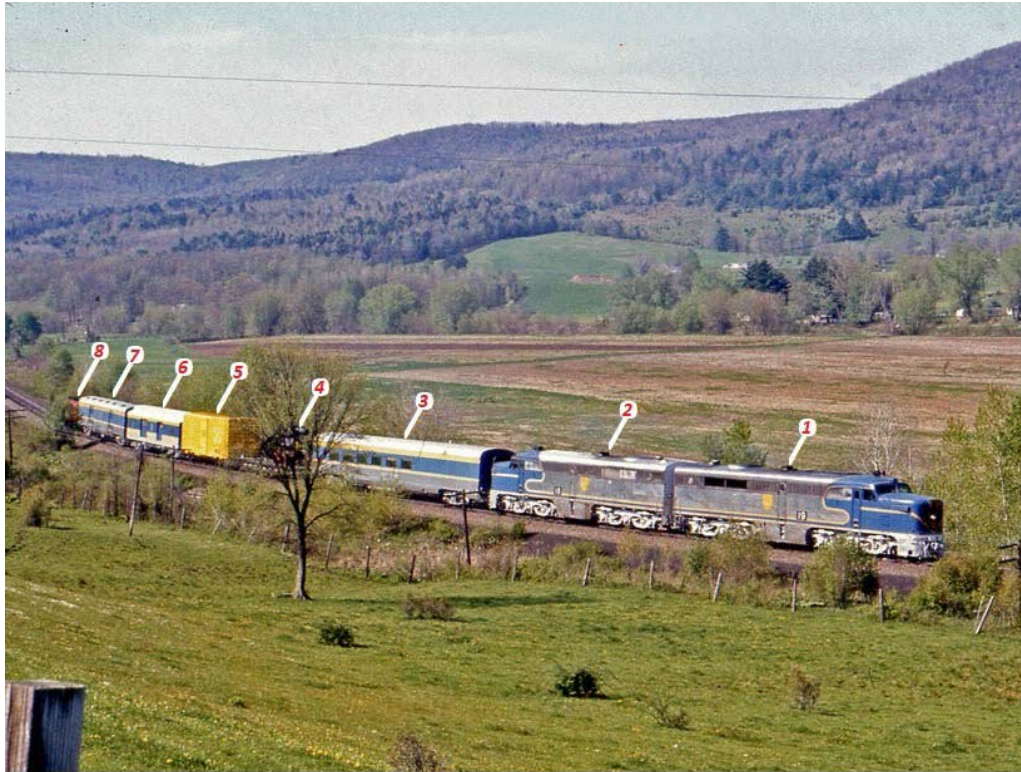
<https://www.youtube.com/c/DHCanalHistoricalSociety/videos>

150. D&H Sesquicentennial Train; two photos and a post card, from Stacy Gardner, July 24, 2020:



D&H RR "SESQUICENTENNIAL SPECIAL"

PICTURED IS THE D&H SESQUICENTENNIAL SPECIAL TRAIN HEADING SOUTH OUT OF FOREST CITY, PA. ON IT'S WAY TO STEAMTOWN IN SCRANTON, PA. ----- PHOTO: BOB SYPHER ----- MAY 1973



**D&H RAILROAD
DAMASCUS, NY
SESQUICENTENNIAL
TRAIN
1973**

LEGEND

- 1 = DH PA1 No.19
- 2 = DH PA1 No.18
- 3 = DH No.43 "CHAMPLAIN"
- 4 = DH No.13764
- 5 = DH No.19691
- 6 = DH No.483
- 7 = DH No.52
- 8 = DH No.35721



DELAWARE & HUDSON DISPLAY TRAIN

RP482

For three weeks during late April and early May 1973 the Delaware and Hudson dispatched a display train, powered by the famous Alco PA locomotives, containing railroad history and contemporary displays commemorating their 150th anniversary, over the system from Montreal to Wilkes-Barre. The main attraction was the operating replica of the "Stourbridge Lion". People at Whitehall, N.Y. view the train on its stop there May 1st.

Photo by Carl H. Sturmer

STAMP
49580

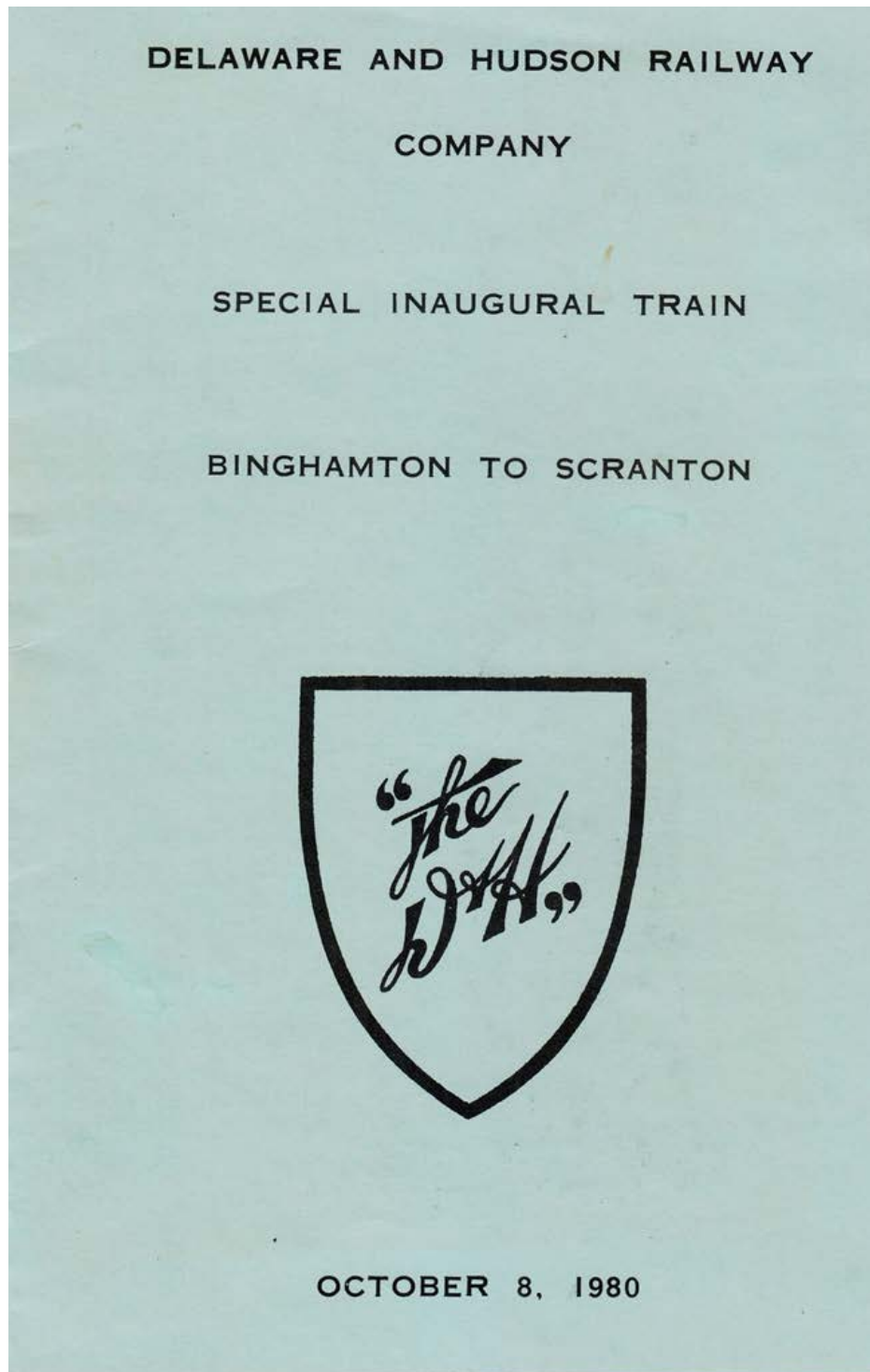
POST CARD



**DELAWARE & HUDSON
1823 - 150th Anniversary - 1973**

Published by *Audio Visual Designs*, P.O. Box 24, Earleton, N.Y. 12058

151. *D&H Train, Binghamton to Scranton, October 8, 1980*; program donated to the Carbondale Historical Society by the Wayne County Historical Society, July 22, 2020:



WELCOME

Welcome aboard the D&H Special Inaugural Train on which we celebrate the reestablishment of through freight service on the former DL&W line between Binghamton and Scranton. This is a special moment for the Delaware and Hudson Railway Company representing, as it does, an important step forward in our efforts to achieve a restructured rail system providing reliable, alternative rail service to the public in the Northeast.

The properties which we dedicate to D&H operations today were acquired from Consolidated Railroad Corporation (Conrail), but previously were part of the Delaware, Lackawanna and Western Railroad. The acquisition includes about 58 miles of the mainline between Binghamton, NY, and Scranton, PA, yard properties at East Binghamton and Scranton (Taylor Yard) and about two miles of the former Bloomsburg Branch of the DL&W from Bridge "60" in Scranton to the south end of Taylor Yard.

Because of the excellent operating characteristics of the DL&W line, D&H will reroute its through freight operations from the existing line over Ararat Mountain to the DL&W. D&H will continue to provide local service Scranton to Carbondale. The Company will also keep its line from Lanesboro to Nineveh as its "clearance" route.

The lines over which you travel today have a rich history intertwined with the early settlement and economic development of this region. The D&H has been a part of that development from the start and is the only rail survivor with its original identity still intact. We are proud of that fact, but, more important, we look forward to our future growth into a strong, financially-healthy regional railroad.

HISTORICAL PERSPECTIVE

The D&H had its beginning as a canal company in 1823 formed to transport the abundant deposits of anthracite coal in the Carbondale area. By means of an inclined-plane (gravity) railway and a canal operation, where mules laboriously hauled coal-laden barges, the company transported coal to Kingston, NY, on the Hudson River. River steamers then moved the coal to various markets, but particularly to the New York City area.

Southwest of Carbondale, the small locality of Deep Hollow began to thrive on the grist mills and smith shops of the Slocum family and accordingly became known as Slocum Farm. In the 1840's, after the arrival of the George W. Scranton family, iron blast furnaces and a rail rolling mill were developed, the forerunner companies of Bethlehem Steel Corporation. Renamed Scranton and then Scranton, the city rose to the position of the third largest city in Pennsylvania.

Growth in the area was aided not only by coal deposits but by the power derived from the fast-flowing Lackawanna River whose headwaters begin near Ararat, PA, and flow south through Carbondale and Scranton to Wilkes-Barre where it flows into the Susquehanna River. Along this same route was subsequently built what is now the D&H railway.

DEVELOPING RAIL LINES

During the mid-1800's rail lines were being constructed in all directions as entrepreneurs and promoters sought a share of Philadelphia and New York City markets. Emerging western markets also beckoned to George Scranton who was the driving force in the 1851 opening of The Liggett's Gap Rail Road. Renamed the Lackawanna and Western, the line ran between Scranton and Great Bend where it was able to connect with the Erie Railroad and its route west. Constructed of 56 lb./yard T-rail laid to the Erie's 6-foot gauge, directly on hemlock ties, the line commenced with an ascent out of Scranton, rising 500 feet to Clark's Summit, descending to Ark Swamp and rising again to the 2250-foot Tunkannock Tunnel. A descent to Tunkannock Creek at Nicholson brought the railroad to Martins Creek which it paralleled for 19 miles to the watershed at New Milford. The railroad continued north to Hallstead where it crossed the Susquehanna River on a 600-foot truss bridge to connect with the Erie at Great Bend.

Intensifying rail competition, designs on markets of the Northeast as well as the West, and the completion of the Albany and Susquehanna Railroad from Albany to Binghamton, NY, inspired Moses Taylor of the Valley Railroad Company to open in 1870 an extension linking the Lackawanna & Western at Hallstead with Binghamton.

By 1870 Scranton, with a population of about 50,000, was becoming an important manufacturing and mining center while Binghamton, with about 15,000, was becoming an important transportation center. In addition to the Susquehanna and Chenango Rivers, and their connecting canals, Binghamton had four railroads, the Erie, the Lackawanna, the D&H and the Greene Railroad.

D&H EXPANSION

George Scranton had not been alone in his evaluation of business opportunities to the North and West. During the Civil War, the Delaware and Hudson managers had approached both the Erie Railroad and the Jefferson Railroad (a "paper" railroad without any track as yet) about access north from Carbondale to the Erie line, with the thought of achieving a connection at Binghamton with its soon-to-be subsidiary, the Albany and Susquehanna Railroad (A&S). The completion of the A&S from Albany to Binghamton had been due in large measure to financial underpinning by the D&H organization.

In 1869, under the Jefferson Railroad Company charter, construction of a new rail line was begun by the Erie Railroad, following, between Carbondale and Jefferson Junction, a survey prepared by the Northern Coal and Iron Company (a D&H subsidiary) and financed, in a convoluted manner, by the D&H itself. On October 28, 1870, the first D&H train exercised its trackage rights over the Erie's new line.

This new line followed the Lackawanna River, rising 915 feet to a summit at Ararat. Twisting downward to evade a direct but steep descent, it proceeded along Starrucca Creek to Lanesboro Junction on the Susquehanna River.

One good idea begets another and by December, 1871, a cut-off or short-cut route to the north (The Lackawanna & Susquehanna Railroad "Easy Line") was opened. The new line followed the Susquehanna Valley from Jefferson Junction, near the Erie Main, to Nineveh on the Albany and Susquehanna Railroad, now a D&H subsidiary. This extension eliminated 27 miles and the A&S Belden Hill grade from the coal route north.

The Jefferson Branch and the new cut-off were laid with three rails so that both 6-foot gauge (Erie) and the increasingly-popular 4'-8½" gauge (D&H) equipment could operate. By 1872, the A&S had completed the addition of the 4'-8½" (or standard) gauge to its line. The DL&W to the West opted for a massive one-day change-over, with countless gangs of men moving one rail on every track to the closer position.

Prosperity shone on both DL&W and D&H. In the 1880's and '90's extensions and acquisitions fleshed out the two systems. Low-grade line improvements based upon new construction technology issued forth from the railroad managements in the 1900's to 1920's.

The D&H concentrated on its Nineveh-to-Albany line, since only an impractical multi-mile tunnel could improve the Jefferson Railroad whose ownership belonged to the Erie anyway.

CONSTRUCTION OF TODAY'S ROUTE

The DL&W had a pair of valleys (Ark Swamp and Martins Creek) on its route between Binghamton and Scranton which it sought to avoid by building a new line on the paralleling ridges above. This new design, however, called for a pair of massive viaducts and a new tunnel, the statistics and costs of which set world records at the time. Fresh from the engineering triumph of its New Jersey cut-off in 1980 and flush with operating profits, the DL&W initiated construction of the newly-engineered line in 1912. It is this rail line which the D&H Inaugural Train is reopening today.

By 1915, 39.6 miles of railroad from Clark's Summit to Hallstead had been rebuilt to new standards, eliminating 3.6 miles of the previous length. Curvature had been reduced from 6 to 3 degrees, the eastbound grade had been reduced from 1.23% to 0.68% (the westbound grade was unimprovable: Scranton to Clark's Summit), and total rise-and-fall had been reduced from 553 feet to 226 feet. The roadbed varied from 2-track to primarily 3-and 4-track widths.

The 3-track Kingsley Viaduct is exceeded in concrete railroad structures only by the 2-track Tunkhannock Creek (or Nicholson) viaduct. This latter, beautiful structure received world recognition for its superlatives: 2375 feet long, track level 240 feet above Tunkhannock Creek, and 10 arches each spanning 180 feet.

RAIL DECLINE

This improved line was central to the fortunes of the DL&W until the decline of coal in the 1950's. With the erosion of this traffic base, both DL&W and the D&H emphasized merchandise traffic and accelerated plant and operating economies.

The D&H purchased the Carbondale-to-Jefferson Junction route from the Erie in 1955 and rationalized it down to single track with second-track segments, matching its policy elsewhere. The DL&W chose merger, in 1960, with the Erie to eliminate duplicative lines and facilities.

Between 1960 and 1976, the Scranton-Binghamton line witnessed famine and feast while traffic was alternated between old Erie and old DL&W lines by the Erie-Lackawanna (EL) management.

On July 1, 1968, both EL and D&H came under the Dereco, Inc., "umbrella" of the Norfolk and Western Railway Company, as an ICC-mandated reaction to the merger of the Pennsylvania Railroad with the New York Central Railroad (Penn Central). Soon thereafter the EL entered bankruptcy in 1972 and was subsequently folded into the new government-formed corporation, Conrail.

A NEW RAIL AGE - ADVENT OF CONRAIL

In 1976, the Consolidated Rail Corporation (Conrail) was created by a government agency, the United States Railway Association, by combining the D&H's prime competitor, the Penn Central, with the D&H's major friendly connections, the EL, the Lehigh Valley, the Reading and Central of New Jersey Railroads.

At the same time, in order to preserve Congressionally-mandated rail competition in the Northeast, the USRA expanded D&H to double its original size via trackage rights over Conrail extending from proprietary D&H lines to physical connections south, east and west beyond the Lackawanna Valley.

The D&H was extended to Buffalo, Newark, Allentown, Philadelphia, Harrisburg, and Washington, DC. Although, as said, the express goal of this extension was preservation of competitive rail service in the Northeast, the plan unfortunately had to be drawn together in three weeks by federal planners who were faced with the last minute withdrawal of the Chessie System from the initial federally-recommended Northeast rail plan.

Because of flaws in that extension plan, the D&H's financial viability has been in question for several years. Accordingly, the company has developed a series of strategic recommendations for physical route restructuring, plant rehabilitation and improved market access in order to forge a new company which will be financially healthy and serve the rail transportation needs of the public in the Northeast.

As much of D&H's future traffic growth is projected to be along the Binghamton-Scranton rail axis, the Company evaluated early the possibility of using the superior operating route of the former DL&W line. In contrast to projected D&H growth through this area, Conrail was retrenching and had removed the DL&W route from main line service, although continuing to provide local service.

In early September of 1980 the D&H and Conrail agreed to transfer operation and ownership of this line to the Delaware and Hudson Railway Company.

FUTURE USE OF DL&W LINE

The plan for the future use and integration of the DL&W line into the D&H system is still being refined. Local service will be upgraded in frequency for those customers requiring such service. Approximately eight through freights daily will ply the rails and traffic projections suggest a sizable increase in the next ten years. During the same period, the yards at Taylor (Scranton) and East Binghamton are expected to assume greater importance as the work they perform can benefit all other system yards and terminals to a higher degree than existing facilities in those areas.

A look at the enclosed map reveals how readily the new line fits into D&H structure. The line will enable D&H to produce lower cost transportation and better service. Reduced grades particularly will be helpful in significantly lowering D&H's fuel costs. Due to the excellent engineering of the new route D&H through trains will traverse 40 fewer grade crossings.

Although the line is superbly engineered, it has been essentially out of service for two years. Accordingly, for the first few months the line will be operated in an interim fashion while immediate needed maintenance of way work can be completed. Through trains will operate southbound on the new line while northbound through trains continue to operate on the existing D&H line. Once the initial maintenance work is complete it will take further time to properly integrate the line fully into the D&H system.

The D&H has applied to the Federal Railroad Administration for about \$8 million in financing to rehabilitate the line and its rail classification yards. Ultimately, with the installation of a two-way modern traffic control system and rationalization of the line with high-speed passing sidings, the line will have sufficient capacity to handle all rail growth in the foreseeable future.

The railroad is hopeful that important and useful tracts of land adjacent to the rail system may be used to attract new industry benefiting the local economy and the railway.

D&H is most pleased that a line so rich in historical significance fits so well into its plans to provide service consistent with the needs of tomorrow's transportation.

DELAWARE AND HUDSON RAILWAY COMPANY

New York/Pennsylvania State Line Ceremony

October 8, 1980

Program Order:

Welcoming Remarks and
Introduction of Guests

- Kent Shoemaker, President of
the Delaware and Hudson

Guest Speakers

- The Honorable Warren Anderson,
Majority Leader, NY State
Senate
- Louis Rossi, Director Rail
Division, New York State
Department of Transportation
- The Honorable Thomas Larson,
Secretary of Transportation -
Commonwealth of Pennsylvania
- John Sullivan, Administrator
of the Federal Railroad
Administration
- The Honorable Joseph McDade,
Congressman from Pennsylvania

Retirement Award Presentation

- The Honorable James Hanley,
Congressman from New York

Champagne Inauguration of Route

- Mrs. Mary Scranton

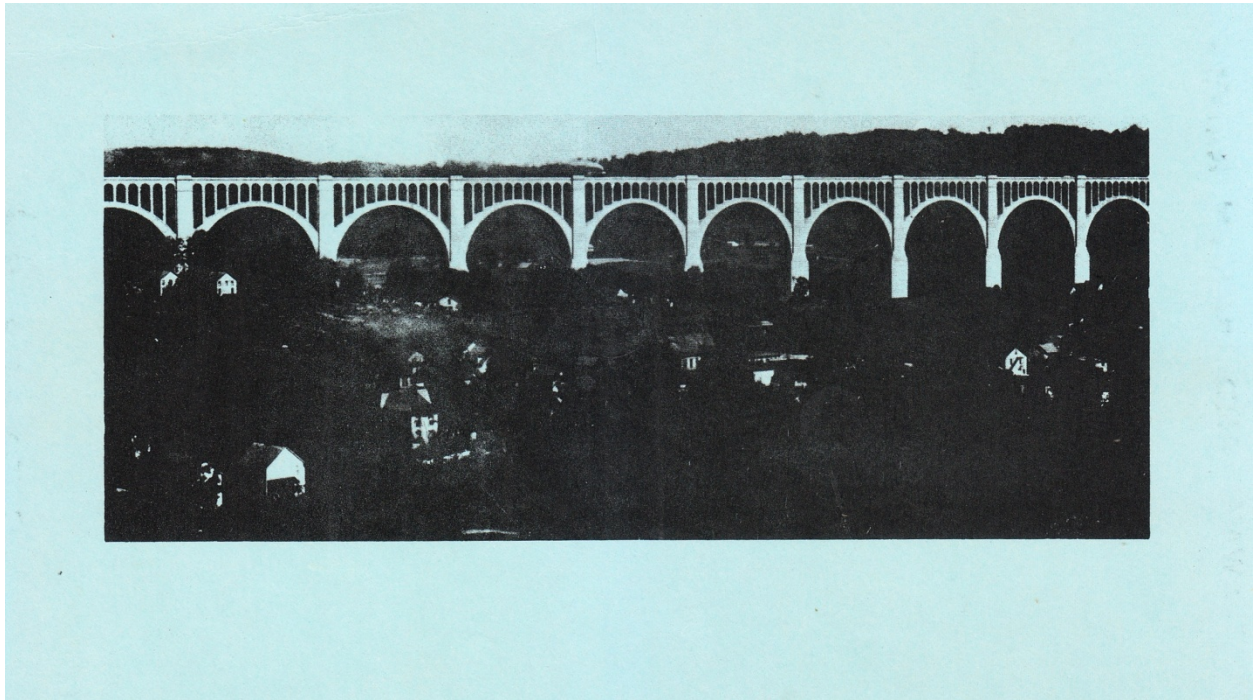
STATIONS AND MILEAGES

BINGHAMTON TO MINOOKA JCT.

<u>M.P.</u>	<u>Distance from Binghamton</u>	<u>Location</u>
191.7	0	Binghamton
189.0	2.7	East Binghamton Yard
185.0	6.7	Conklin Center
182.5	9.2	Conklin
180.2	11.5	NY-PA State Line
177.6	14.1	Hallstead
171.7	20.0	New Milford
165.4	26.3	Alford
161.9	29.8	Kingsley
160.75	31.0	Kingsley or Martins Creek Viaduct
157.6	34.1	Foster
155.0	36.7	Old Line Jct.
152.1	39.6	Nicholson
151.76	39.9	Nicholson or Tunkahannock Creek Viaduct
149.35	42.4	Factoryville or Nicholson Tunnel
148.3	43.4	Factoryville
146.0	45.7	LaPlume
144.1	47.6	Dalton
143.1	48.6	Glenburn
140.6	51.1	Clark's Summit
136.3	55.4	Cayuga Jct.
134.0	57.7	"Bridge 60", Scranton
136.7	60.6	Taylor Yard
137.5	61.4	Minooka Jct. or "MJ" Cabin

MINOOKA JCT. TO LANESBORO

<u>M.P.</u>	<u>Distance from Minooka Jct.</u>	<u>Location</u>
196.9	0	Minooka Jct. or "MJ" Cabin
194.3	2.6	South Scranton
192.4	4.5	Carbon Street Jct.
191.4	5.5	Green Ridge Yard
190.6	6.3	Providence
188.6	8.3	Dickson City
188.2	8.7	Valley Jct.
187.1	9.8	Olyphant
185.6	11.3	Jessup-Peckville
183.1	13.8	Archbald
180.9	16.0	Jermyn
179.6	17.3	Mayfield
177.4	19.5	Lookout Jct.
177.0	19.9	Carbondale
170.1	26.8	Forest City
164.0	32.9	Uniondale
163.0	33.9	Herrick Center
160.0	36.9	Burnwood
156.3	40.6	Ararat
151.7	45.2	Thompson
148.88	48.0	Starrucca Creek Viaduct-D&H
148.4	48.5	Starrucca
142.7	54.2	Stevens Point
141.5	55.4	Brandt
140.7	56.2	Jefferson Jct.
138.7	57.7	Lanesboro (and Starrucca Creek Viaduct-Erie)



The purchase by the D&H of the DL&W line from Scranton to Binghamton: In *The Mail Car* column in the September 2020 issue of the *Bridge Line Historical Society Bulletin* (p. 10), Howard Hontz answered Jim Frederici's question about the date when George Klineberger and Howard Hontz delivered the check to Conrail to purchase the DL&W line Binghamton to Scranton, including all properties contained therein.

Here is Howard Hontz's answer: "Sorry, I do not recall the exact date we delivered the checks, but we did deliver two checks dated December 28, 1982. One check for \$1,700,000 was for the purchase; the second, dated December 28, 1982 was for \$110,972.52 to pay for the adjusted taxes."

The inaugural D&H train over the line from Binghamton to Scranton, October 8, 1980:



“October 8, 1980. The Penn Division "Death Train" as I like to refer to it as it arrives at Bridge 60 in Scranton. Powered by the 452 and 4075, D&H brass departed Binghamton southbound via the newly purchased Lackawanna main for Scranton and Taylor, PA. Upon arrival at Bridge 60 in Scranton, the train was turned utilizing the old Lackawanna main inbound and then backing out of Bridge 60 on the Bloom leg of the wye for Taylor and old Minooka Jct. (Today's Carbon switch HA 675.0 where the Delaware Lackawanna connects to the Sunbury Main and in days of yore, the Central RR of New Jersey joined the D&H main for trackage rights south to Hudson Yard in Plains). After shoving from Bridge 60 to old Minooka Jct., the D&H brass proceeded north over the Penn Division one final time up through the Mid Valley and over Ararat [emphasis added]. As a side bar, this move was made possible by the foresight of former D&H President Bruce Sterling. Knowing the Lackawanna Main would become available by Conrail and that it was a better route between Scranton and Binghamton than the D&H's Penn Division, Sterzing traded the CNJ trustee for title to 1/4 mile of CNJ main between Davis St South of Taylor Yard and Minooka Jct. In exchange, the D&H forgave all per diem charges owed to the D&H by the CNJ estate. When the D&H bought the Lackawanna main from Binghamton to Scranton in 1980, this allowed the D&H to have a new main from Binghamton to Bridge 60 on the old Lackawanna Main, utilize the Bloomsburg branch from Bridge 60 to Taylor Yard, the CNJ from Davis St to Minooka Jct and then head south on the old D&H Penn Division main. This photo is taken from a slide by an unknown photographer from my collection.” Posted on Facebook by Chad Tyk in the Delaware and Hudson Railroad group on September 6, 2020.

152. "Cowen not Corwin; Don't Make Assumptions"; *The Upper Delaware* newsletter, Spring 2020, Volume 33, Number 1, p. 7:



CORRECTING HISTORY: The National Park Service Upper Delaware Scenic and Recreational River's property near Pond Eddy formerly known as the Corwin Farm will now be known as the Cowen Farm. A "Sneak Peek" event is planned on May 16 and 17. (Contributed Photo by NPS)

New Name for Old Canal-Era Property

"What's in a name?" asked William Shakespeare. "That which we call a rose by any other name would smell as sweet."

After research uncovered historical inaccuracies, the Upper Delaware Scenic and Recreational River's canal-era property in the Town of Lumberland, NY known throughout the National Park Service's quarter-century of ownership as Corwin Farm will now be named Cowen Farm.

A decision was finalized in December 2019 to correct the name based upon newly-discovered documentation that it was Joseph Cowen who constructed the farmhouse on the property around 1838.

The Cowen family remained associated with the property through the existence of the Delaware and Hudson Canal, which ceased operations in 1898. A closer inspection of 1865 D&H Canal survey maps revealed the name "J. Cowin". Due to Corwin having been a common name in the area during that time period, the misspelling was assumed to have been Corwin instead of Cowen.

The name Joseph Cowen, first realized during a chain of title search for the property, was confirmed through census records and is referenced in John Willard Johnston's 1901 book, *Reminiscences*.

Further analysis of the 1865 survey maps that were obtained by the D&H Transportation Heritage Council primarily through the dedicated efforts of member Kerron Barnes revealed a second misinterpretation.

The belief that the farmhouse belonged to a lock tender was found to have been an error. On the D&H Company maps, it can

be easily seen that the lock tender's house was actually on the north side of the property line, near the lock that was filled in many years ago, and not on the National Park Service property.

Instead, the lower level of the farmhouse was used as a small store front that opened up to the canal towpath to sell goods to those traveling on the canal. The terrace on which the Cowen Farmhouse sits was created by the construction of the Delaware and Hudson Canal which left behind raised levels of easy-to-plow soil to plant crops and gardens.

Joseph and his wife, Phoebe, lived on the property until their deaths in 1864 and 1890, respectively. Before they died, the property was passed down to their daughter, Caroline, who married Albert Stage, a lumber merchant, teacher, and member of the Sullivan County Board of Supervisors.

The Stages continued to live in the farmhouse until Caroline passed in 1914 just before Albert died in 1915.

The property was owned by several other families, most significantly the Strenz family from the 1920s through the 1960s, prior to the National Park Service purchasing the land in 1995.

Keep an eye out this spring for new pages on the www.nps.gov/upde website that tell the story of the Cowen Farm.

There will also be an opportunity for the public to stop by the property located at 2995 State Route 97 in Pond Eddy and speak with a ranger about its history and current use during the Sullivan County Sneak Peek on May 16 and 17 between 10 a.m. and 4 p.m. (please confirm online).

Comment from SRP to be shared
S. Robert Powell <srp18407@gmail.com>
to Laurie

10:36 AM

July 26, 2020

Laurie:

Attached is a "comment from SRP" that I think would be appropriate to share with the members and friends of the DHTHC.

The Canal dinner on August 8 at Lock 16 is a nice idea. I will attend. I am especially interested in attending because Locks 13 and 14 were operated by members of the Griswold family (to which I am connected through my mother).

Best,

Robert

Lesson for All of Us to Learn: Published in the Spring 2020 issue of *The Upper Delaware* (Volume 33, No. 1, copies of which were made available by Laurie Ramie at the DHTHC meeting on July 22 at the Pike County Historical Society) is an article, from the National Park Service, titled "New Name for Old Canal-Era Property." If you haven't already read the article, get a copy and read the article, which is on page 7.

Thanks to the diligent, thorough, and painstaking historical research on the part of the National Park Service, we now know that the farm in the Town of Lumberland (the farm now owned by the NPS), which for a quarter century or more was known as the *Corwin* Farm, should properly be called the *Cowen Farm*.

As we all know, errors of all kinds can slip into the historical record. All of us, after all is said and done, are only human beings, and all of us, in spite of our best efforts to be one hundred percent accurate in what we record, sometimes record incorrect "facts". It's regrettable, but it happens--but it's not the end of the world. The solution, when that happens, is easy: Identify the problem, present the arguments in support of the correction, make the correction (cancel the execution of the "historian" who recorded the incorrect "fact"), and move on.

Thanks again, NPS, for your diligent, thorough, and painstaking historical research on behalf of the Cowen Farm.

S. Robert Powell, Carbondale Historical Society

Hauptman, Lauren

5:29 PM

Thank you Dr. Powell for your support!

Bill is indeed correct, the D&H Maps do say "Cowin". I believe that this is actually where the error originated. There were several CoRwin families in the area and I think it was assumed that "Cowin" was an error. Looking at multiple sources such as deeds, census records, obituaries, and John Willard Johnston's writings helped reveal and confirm the true name.

If anyone is interested in reading the Historic Structures Report for the property, I can send it to you digitally. Eventually, we'll figure out how to get it up on a NPS website that we can link to from the park page.

It was great seeing everyone last week.

Take care!

Lauren

Lauren F. Hauptman
Cultural Resources Program Manager
Upper Delaware Scenic and Recreational River
274 River Road
Beach Lake, PA 18405
Office: 570-685-4871 x6606
Mobile: 570-493-6963
<http://nps.gov/upde>

153. *Rope Ferry across the Delaware River above the Delaware Aqueduct*; detail of Delaware Aqueduct map from the Canadian Archives:



Guard Lock at the Entrance to the D&H Canal on the New York Shore at the Delaware Aqueduct; detail of Delaware Aqueduct map from the Canadian Archives:

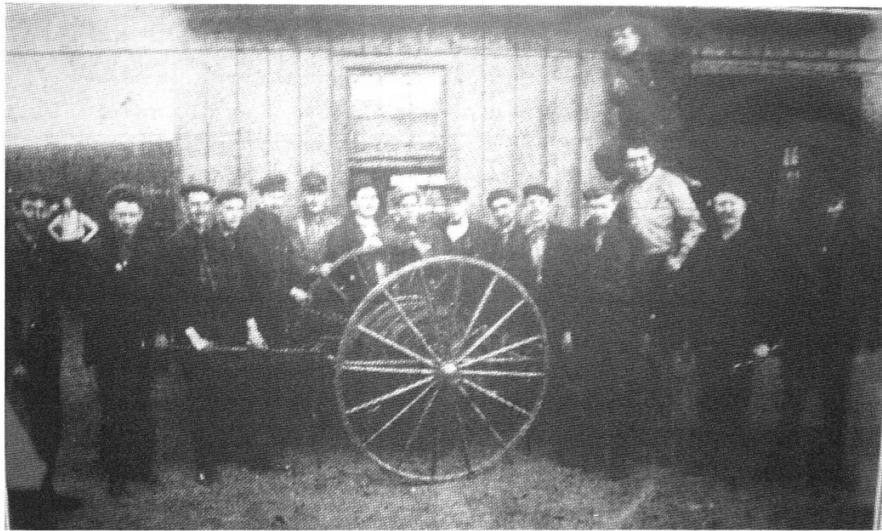


154. 'Delaware and Hudson Fire Brigade': *History of the Carbondale, PA Fire Department 1843-2015* by Joseph M. Klaptach, January 23, 2015, pp. 115-116:

DELAWARE AND HUDSON FIRE BRIGADE

An article in the January 19, 1905, issue of the *Carbondale Evening Leader* and the January 20, 1905, issue of *The Scranton Republican*, announced that the employees of the Delaware and Hudson Company local shops had formed a fire brigade. Ralph W. Blair was named chief of the brigade. Blair would be responsible for inspecting all hydrants, hose and fire extinguishers that would be placed in the shops. He would also exercise all rights in directing the men as head of the department. The brigade was the outcome of an idea of the company's new general foreman of the locomotive shops, Ross Kells.

The company was active around the beginning of the 1900's and appeared with their hose cart in Columbia Hose Company's 50th anniversary parade on September 4, 1906. On August 4, 1907, the company had their own celebration with a full day outing that included refreshments and a fine program of sports.



The Delaware and Hudson fire department photographed in 1911. Left to right is: William Richards, Timothy Lynady, Ernest Price, Edward Moffitt, Thomas Thomas, William Coon, M. J. Brennan (chief), James Connor, William Murray, Robert Tully, David Harvey, Henry Hart, Patrick Smith and James Coggins. Mark Brennan and Edward Kelly are on the ladder from bottom to top. (Scranton Republican photo)

On November 27, 1907, officers for the company were elected. They were: President Daniel Davis; Secretary H.J. Budd; Chief Thomas Smith and Fireman Timothy Lynady. At the time, the company was comprised of sixteen "well-drilled" members. At the meeting, Robert Tully and Timothy Lynady were named to head a committee to arrange for their twelfth annual banquet to be held on New Year's Day.

The company was called into service in July 1910, during a strike on the railroad. One of the box cars used by strike-breakers caught fire after one of the men carelessly threw a match onto a bed. The D & H Fire Brigade made quick work of the fire before any major damage could occur.

The D & H Fire Brigade was also first on scene of a huge fire on March 13, 1921. The blaze hit the electric power plant at the Coalbrook Colliery of the Hudson Coal Company, causing 3500 mineworkers to become unemployed. The fire was spotted by the watchman around ten o'clock that night. Columbia and Mitchell Hose Companies were also on scene as they battled flames for an hour. Damage estimates neared \$80,000. The plant furnished electricity to the Coalbrook, Wilson Creek, Powderly, No.1 and Jermyn collieries, as well as the Delaware and Hudson Railroad yards and offices in the city. There was fear that the watchman was burned to death in the fire but he was located after the fire, assisting firefighters.

On March 20, 1925, the fire brigade, called the Delaware and Hudson Emergency Fire Force, along with their apparatus was joined by the three city fire companies, under the direction of Fire Chief Sam Vail, to battle a huge fire. Around 6:45 pm, a fire broke out at the Carbondale Shops of the Delaware and Hudson Railroad. The blaze destroyed the machine and erecting shops and badly damaged four locomotives and valuable machinery stored inside the building. The fire was believed to have been started by combustion of oils and greases and left a loss of \$250,000. William Machell, a fireman with the Mitchell Hose Company, was injured in the blaze when he fell into an ash pit, knocking him unconscious. He was taken to his home and treated by his family physician, regaining consciousness around 10 o'clock that evening.

155. The D&H Canal will not tunnel the Shawangunk Mountain; newspaper clipping posted on Facebook on August 2, 2020:

The Directors of the Hudson and Delaware Canal Company have decided the route of the proposed canal between the two rivers. It will terminate at Kingston, instead of this village as was conjectured by some of our citizens.— Judge Wright, the engineer of the company, is of opinion that to tunnel the Shawangunk mountain would be too difficult an undertaking, and that to introduce the water over the pass called Culver's Cap would be impracticable.— Newburgh Gazette.

Kinderhook Herald, June 16, 1825, p. 3

156. Laurie Anders and a D&H Coal Souvenir; email inquiry, August 3, 2020:

Laurie Anders

E-mail sent by Michelle Bahe to John Milczarek, BLHS, on July 23:

Subject:Hudson Coal

Date:Thu, 23 Jul 2020 22:05:25 +0000

From:Michelle Bahe <mbahe@casperwy.gov>

To:blhspresident@aol.com <blhspresident@aol.com>

I am looking for any information about a plaque we have at the museum. It is an engraved piece of coal with the Hudson Coal logo and a portrait of Laurie Anders. Ms. Anders was a small time actress originally from Casper, Wyoming and a regular on the Ken Murray Show, 1950-1953. The piece is small about 8 inches by 6 inches.

Thank you for your time.
Michelle

Michelle Bahe
Curator of Collections
Fort Caspar Museum
4001 Fort Caspar Rd
Casper WY 82604

John forwarded Michelle's email to James Bachorz <blhscurmudgeon@gmail.com>, Brad Peterson <bpeterson1205@yahoo.com> on August 1. Jim Bachorz forwarded Michelle's email (with John Milczarek comments) to S. Robert Powel on August 3.

Here is the coal souvenir in question:



Joe Klaptach at the Carbondale Public Library located the three newspaper items given below:



Mayor Gives Key To Laurie Anders

Mayor James T. Hanlon gave the key to Scranton's "wide open spaces" to Miss Laurie (Deadpan) Anders, star of Ken Murray's television show, when she arrived here last night at the Lackawanna Station.

Miss Anders, on a national personal appearance tour, was at the Scranton Dry Goods Co. store today.

On hand with Mayor Hanlon, who left the Friendly Sons of St. Patrick dinner in Hotel Casey for the occasion, were Mr. and Mrs. Richard Oppenheim, Miss Ann Coplan, Mr. and Mrs. Louis Goldsmith, and Walter Pichert, Hudson Coal Co., who presented her with an engraved coal souvenir.

The Scranton, Pa., Tribune Tues., March 18, 1952—5

STORE HOURS DAILY 9:30 to 5:25
THURSDAY 12:30 to 8:55

*Shop early in the week and early
in the day for best service.*

SCRANTON DRY GOODS CO.

hi podner . . . don't miss

Laurie Anders



THE WIDE
OPEN SPACES
TV gal!

**here
in
person
TODAY**

10:30 to 1

and

2 to 4:30

on our

6th Floor

On August 4, SRP sent the following email to Michele Bahe (with copies to Jim Bachorz, John Milczarek, and Brad Peterson):

August 4, 2020

Dear Michele:

On March 17, 1952, Laurie Anders, as part of a national personal appearance tour, arrived by train at the Lackawanna Railroad Station in Scranton, PA, where she was warmly greeted by Scranton Mayor James. T. Hanlon ("who left the Friendly Sons of St. Patrick dinner in Hotel Casey for the occasion") and a group of distinguished Scrantonians, including Walter Pichert from the Hudson Coal Company (one of the primary coal companies in northeastern Pennsylvania at the time), who presented her with the engraved coal souvenir in your collection. Ms. Anders was also presented, upon her arrival in Scranton, with a key to "Scranton's Wide Open Spaces" by Mayor Hanlon.

On the following day, March 18, Laurie Anders greeted her fans from 10:30 AM to 1 PM, and from 2 to 4:30 PM on the 6th floor of the Scranton Dry Goods Co. store, one of the premier stores in downtown Scranton.

The Laurie Anders engraved coal souvenir in your collection is a real treasure, and we are pleased to have been of service by providing the data reported about the plaque in this email.

Sincerely,

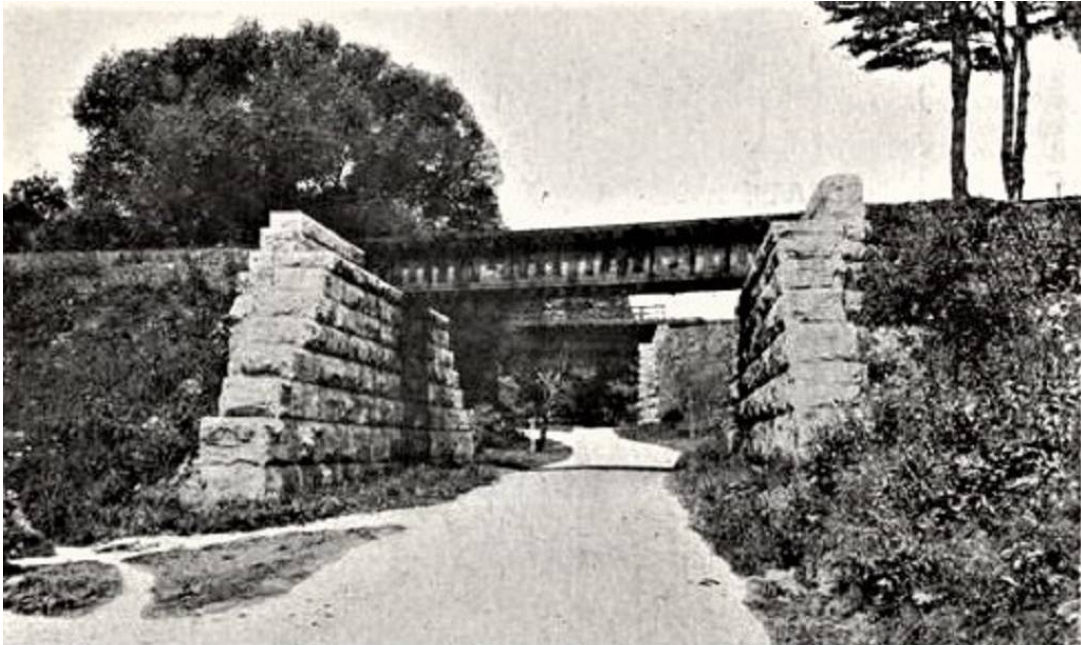
S. Robert Powell, Ph.D.
Carbondale Historical Society

[This Laurie Anders research was conducted by S. Robert Powell, Ph.D., president of the Carbondale Historical Society and Museum and the Carbondale D&H Transportation Museum. Powell is also a columnist for the *Bridge Line Historical Society Bulletin*, for which he writes a monthly column titled "For the Record."]

157. *Northbound D&H Diesel, No. 5003, at Forest City Station*, photo by Neil Shankweiler, August 8, 1964; photo posted on Facebook, August 4, 2020:



158. Six photos, Nineveh, NY; commentary by Stacy Gardner, August 8, 2020:



View looking north/northwest down Saint John Road at both the serviceline railroad bridge (front) and the mainline railroad bridge (rear) located just east of the D&H RR Station. The serviceline bridge is a deck type - steel girder and probably carries just a single track while the mainline bridge is a deck type - steel girder, with guard rails, and carries three tracks.

PHOTO: EBAY - CARDCOW.COM

**D&H RAILROAD Co.
NINEVEH JCT., NY
CIRCA 1915**



View looking west at a north bound D&H J-Class 4-6-6-4 "Challenger" leading a mixed freight consist past the station in Nineveh Junction.

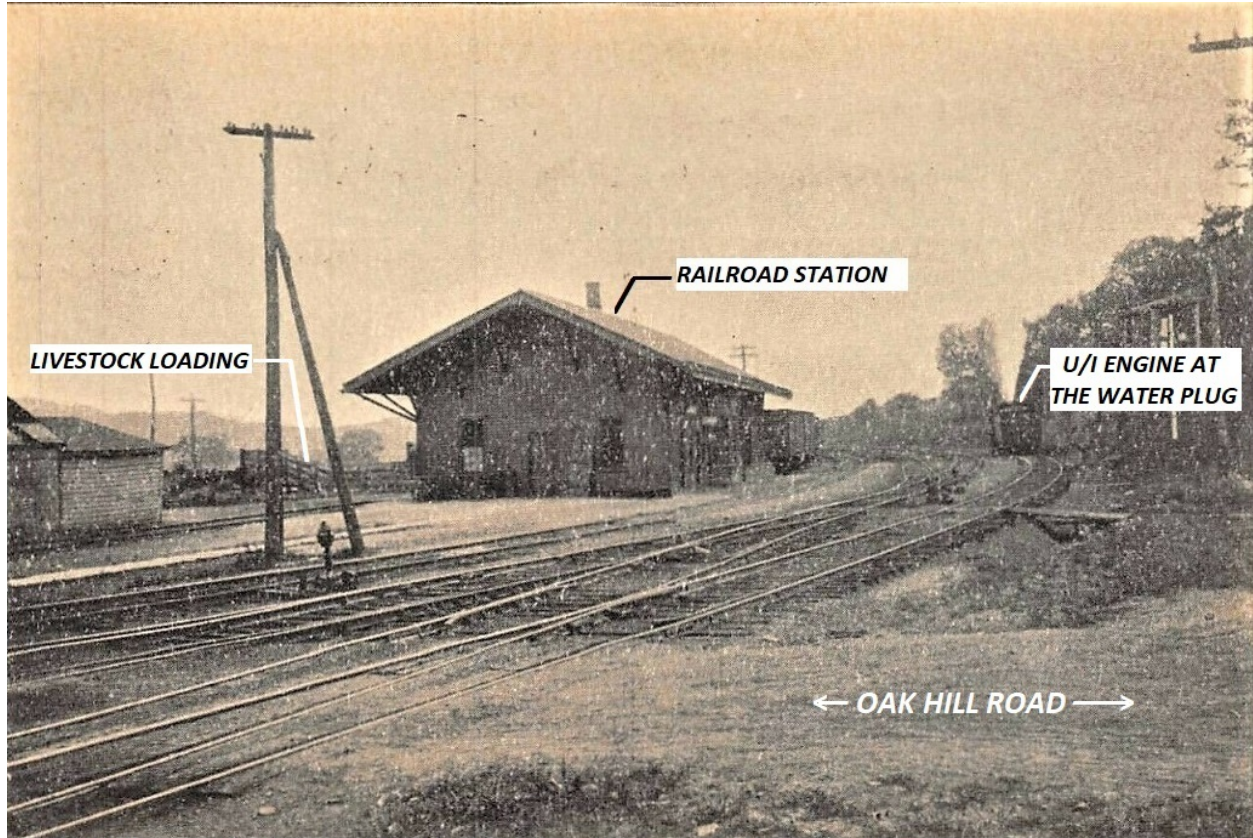
**D&H RAILROAD
NINEVEH JCT., N.Y.
"NINEVEH RR STATION"
CIRCA 1948**



View looking southeast down Saint John Road from under the mainline bridge towards the serviceline bridge located just east of the D&H RR Station.

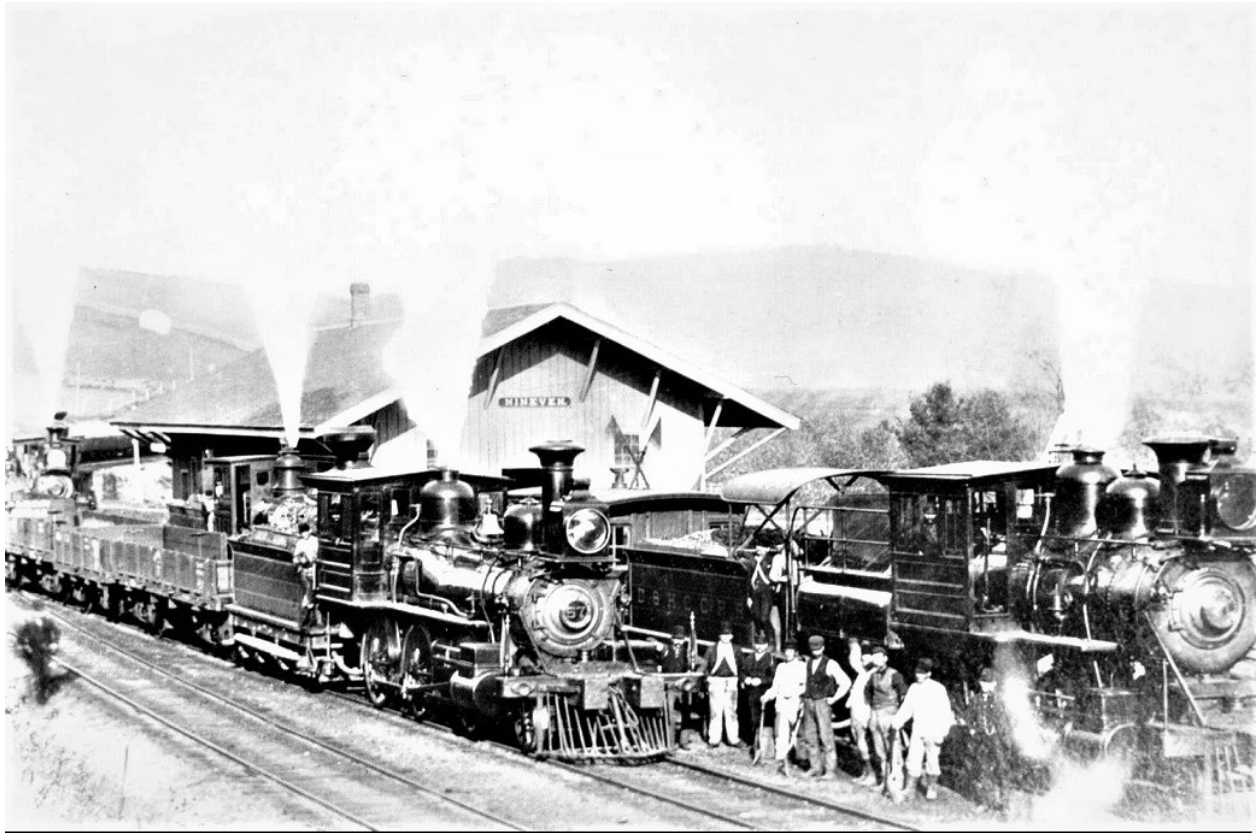
**D&H RAILROAD Co.
NINEVEH JCT., NY
CIRCA 1915**

PHOTO: EBAY - CARDCOW.COM



View looking west/southwest at the railroad station, the engine service area, and the livestock loading/unloading area.

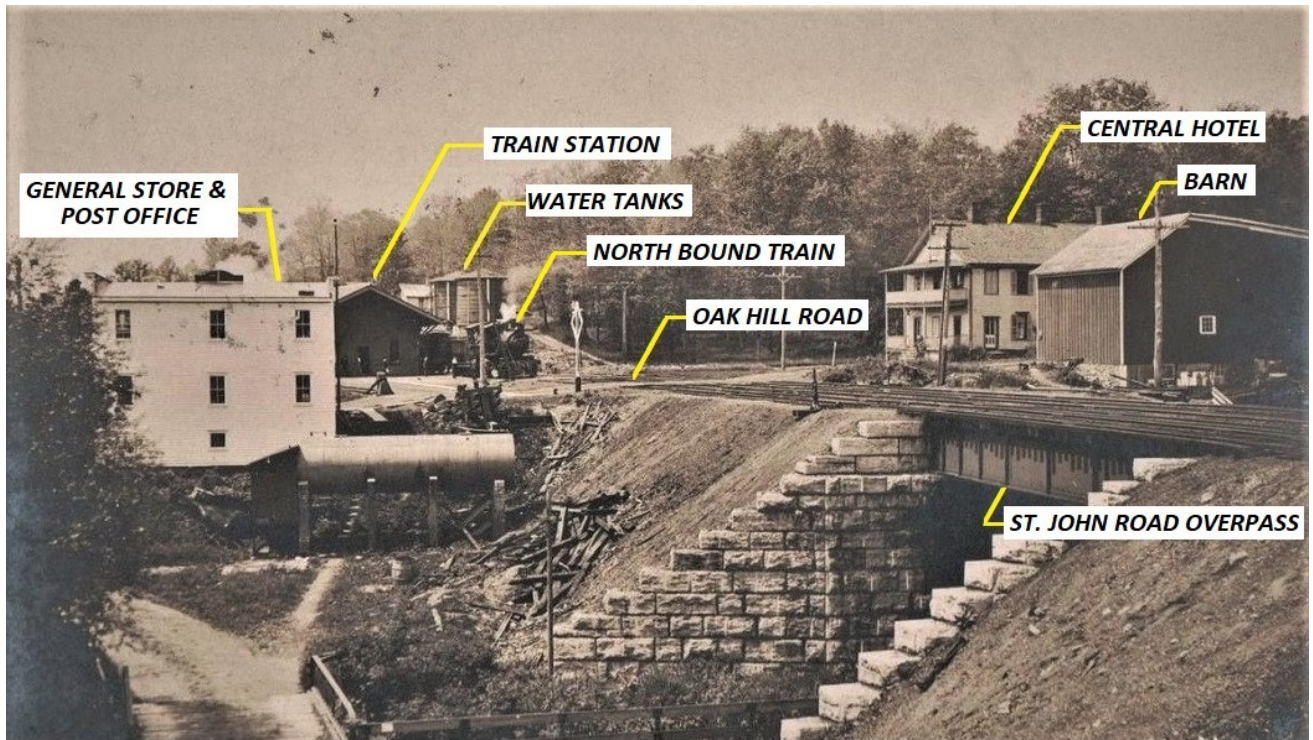
**D&H RAILROAD
NINEVEH JCT., N.Y.
CIRCA 1918**



View looking north at five D&H steam era locomotives parked in front of the train station with their crews posed for the picture. Seen are engines No.57, a 2-6-0 and No.70, a 2-6-0. At least three other locomotives are seen in the distance waiting to assist other trains heading up over Belden Hill.

PHOTO: JOHN J. YOUNG COLLECTION

**D&H CANAL Co. RR
NINEVEH JUNCTION, NY
"TRAIN STATION"
1880**



View looking northwest at a north bound train preparing to leave the train station at Nineveh Junction.

PHOTO: EBAY POSTCARD

**D&H RAILROAD
NINEVEH JCT., N.Y.
"D&H TRAIN STATION"
CIRCA 1880s**

159. Six Photos, Nineveh, NY; photos with identification labels, from Stacy Gardner, August 11, 2020:

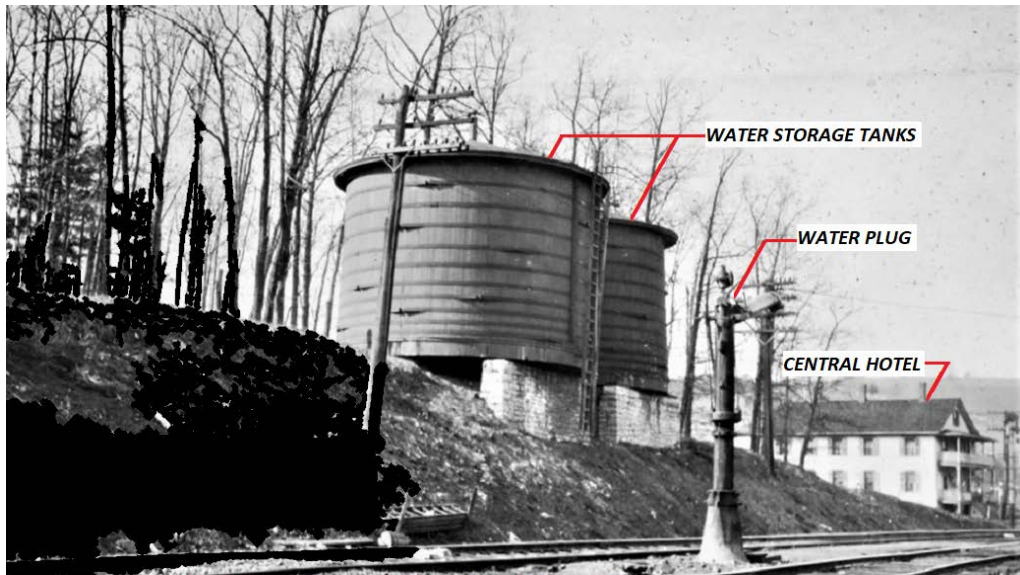


PHOTO COURTESY: BRIDGE LINE HISTORICAL SOCIETY

View looking north at the engine water station located just above the train station in Nineveh Junction.

**D&H RAILROAD Co.
NINEVEH, NEW YORK
"ENGINE WATER STN."
APRIL 26, 1918**



PHOTO COURTESY: BRIDGE LINE HISTORICAL SOCIETY

**D&H RAILROAD Co.
NINEVEH JCT. NEW YORK
"ENGINE HOUSE"
NOVEMBER 9, 1917**

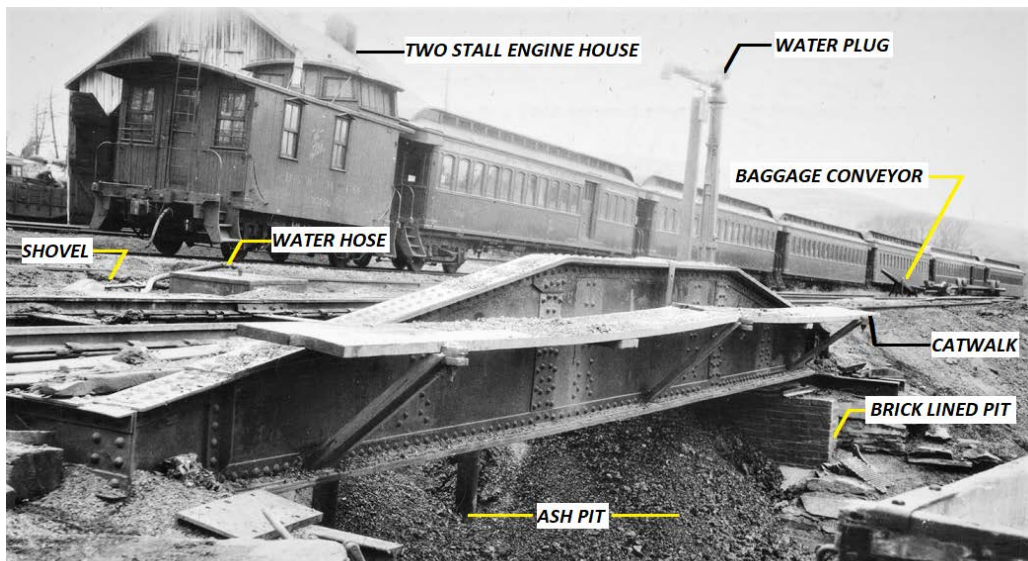


PHOTO COURTESY: BRIDGE LINE HISTORICAL SOCIETY

**D&H RAILROAD Co.
NINEVEH JUNCTION, N.Y.
"ASH PIT"
NOVEMBER 9, 1917**



PHOTO COURTESY: BRIDGE LINE HISTORICAL SOCIETY

View looking east at the front of the train station with a section tool house seen off in the distance. To this date we've seen alot of bits and pieces of the facilities at Nineveh Junction, however, we haven't seen an overall picture showing the entire yard to include the station, water tanks, turntable, engine house, ash pit, and livestock loading area.

Note: The Trinity and Brazos Valley Railway of Texas came into existence 1902 and took its name from the Trinity and Brazos rivers.

**D&H RAILROAD Co.
NINEVEH JCT., NEW YORK
"TRAIN STATION"
APRIL 26, 1918**

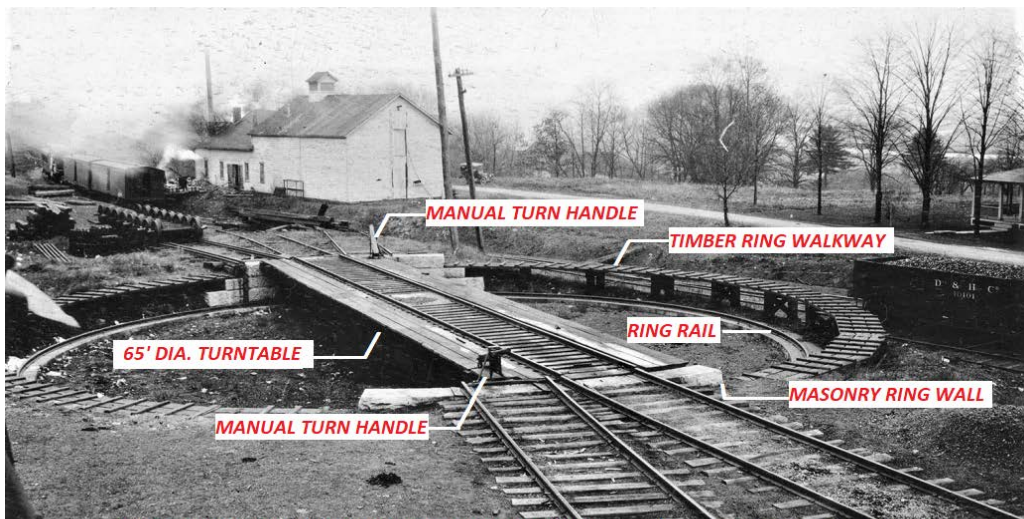


PHOTO COURTESY: BRIDGE LINE HISTORICAL SOCIETY

View looking east with the Susquehanna River seen off in the upper right of the photo. This manual-turn turntable, with a single ring rail, has masonry track approaches and a timber ring walkway, however, the ring rail has a continuous masonry base. Some later date information suggests that the D&H wants to upgrade Nineveh with a 100' turntable.

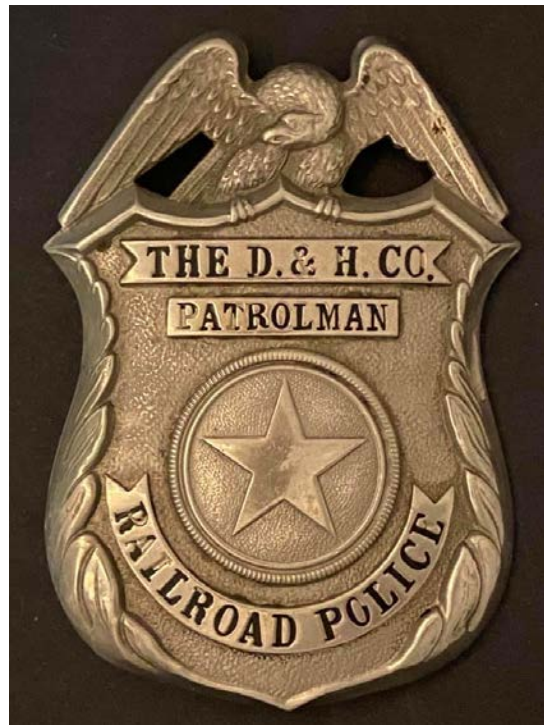
**D&H RAILROAD Co.
NINEVEH JCT., N.Y.
"TURNTABLE"
NOVEMBER 9, 1917**



Not quite sure where we are, however, with the curve in the rails we'll assume that we're looking west/southwest at a D&H J-Class "Challenger" heading north coming out of part of Nineveh's service area. The building on the right could be the two-stall engine house.

**D&H RAILROAD Co.
NINEVEH JCT. NEW YORK
1926**

160. *D&H Railroad Police Badge*; photo posted by Handrew LheBruee on Facebook on August 15, 202, with this comment: “I’m looking for other D&H RR Police items. Thx”



Comment by SRP: Shown here is the D&H Police Department building, No. 22, in the Carbondale D&H Yard. Photo taken August 31, 1917. Photo in the collection of the Bridge Line Historical Society:





Comment by SRP: On October 5, 2016, the 1923 Pennsylvania Division Police Pistol & Rifle Club trophy that is shown here was offered for sale on E-Bay for \$1000.

Handrew LheBruee

thanks for sharing, look sharp

161. *D&H milepost, “A 163” [Albany 163 miles]; at Herrick Center on the Jefferson Branch from Carbondale to Lanesboro; photo by the author on August 16, 2020:*

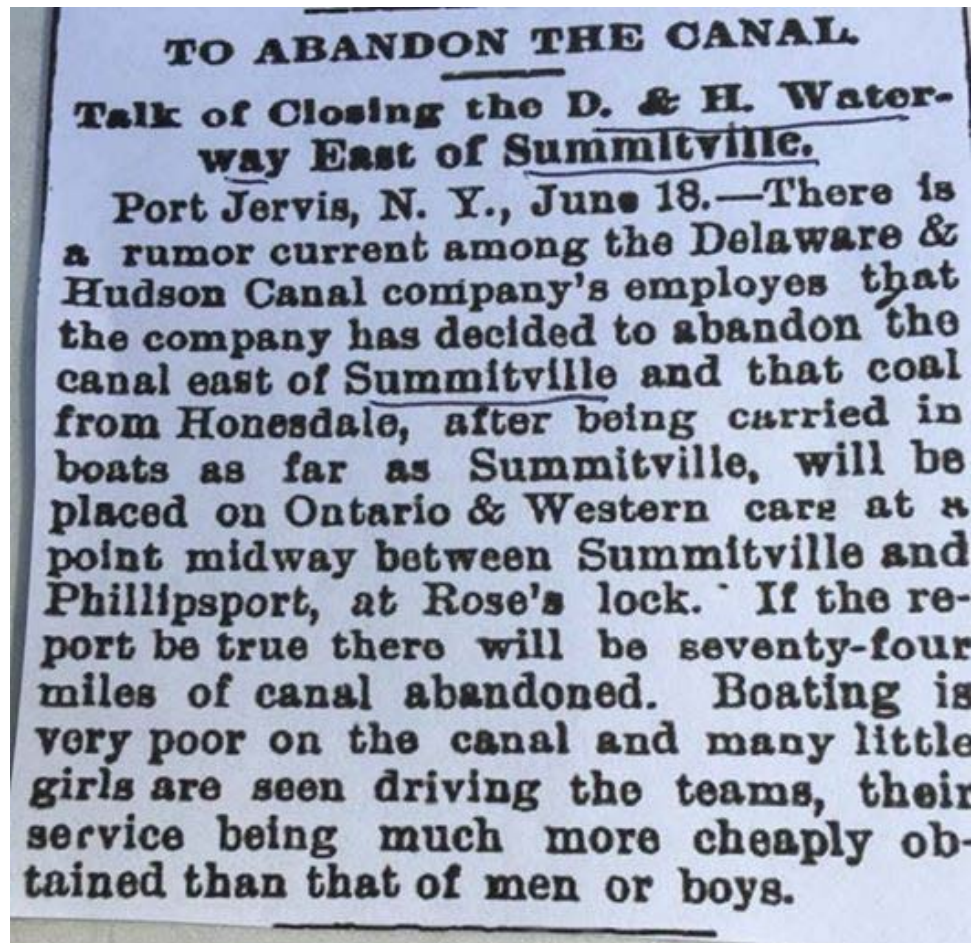


Left: looking North at MP 163; right, looking South at MP 163



D&H Rail Trail (at MP 163), Herrick Center, June 6, 2020. Photo by the author.

162. Talk of closing the D&H Canal east of Summitville; newspaper clipping from *Port Jervis Union*, June 18, 1895, posted on Facebook by the Mamakating Historical Society on August 23, 2020.



“...many little girls are seen driving the teams.” This is important proof that little girls were hired to drive the teams and mules on the D&H Canal.

163. Movement of D&H trains between Binghamton and SW Cabin when the Belden Hill Tunnel was closed for enlargement in 1985; excellent description and photographs by Gordon Smith, posted on Facebook on August 23, 2020:

“In the summer of 1985, the route over Belden Hill was closed due to the Belden Tunnel being enlarged to handle higher and wider shipments, which would be the final blow to the Penn Division. Northbounds out of Binghamton detoured via Conrail on the old Erie to Jefferson Jct. There a set of helper power (usually three 6-axles or the equivalent) would be stationed in Hanrahans Siding. The road power would cut off and duck into the siding and the helper power would get on and pull the train off the connection onto the Penn Division main, and then the road power (now in reverse) would get on the train and handle it north towards SW Cabin. The reverse would take place on southbounds. By this time, the rest of the Penn Division was out of service south of Stevens Point as all traffic was now running on the old DL&W main between Binghamton and Scranton.” Gordon Smith



“The Mt Tom coal train is led by C424 463 passing the old Erie station and division headquarters at Susquehanna, PA”. Caption by Gordon Smith.

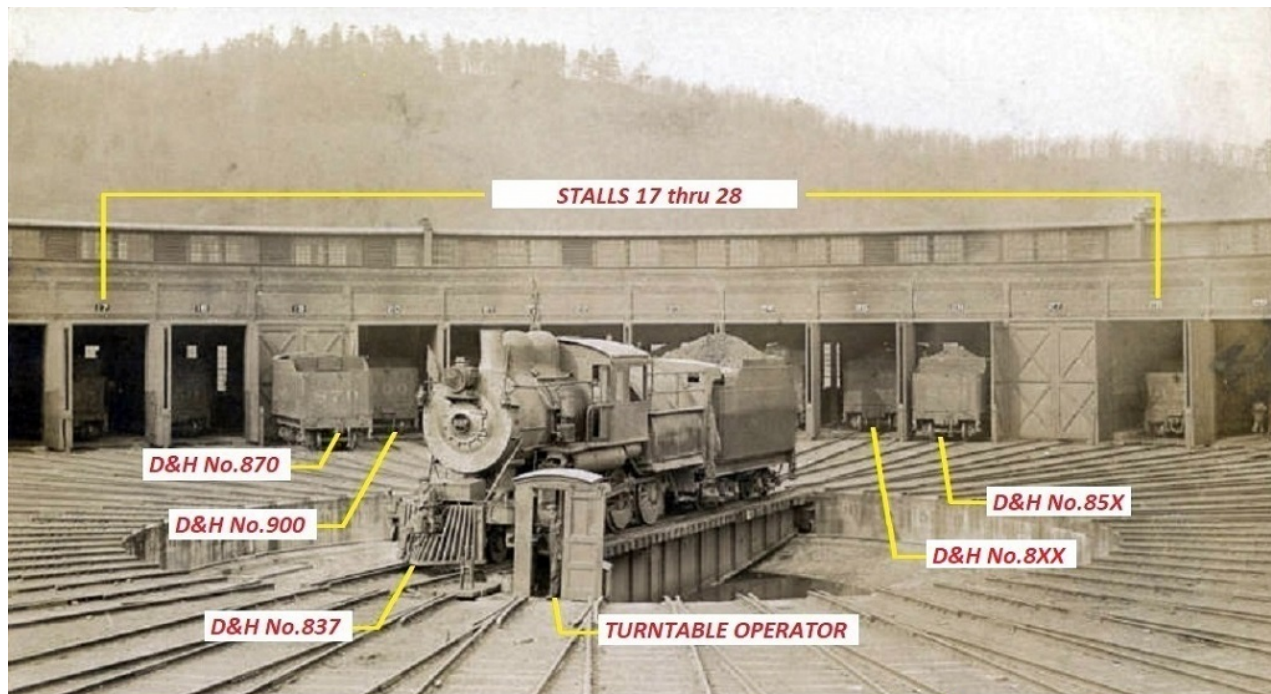


“After having been pulled off the Jeff connector, B&M GP40 338 now leads going by old KY Cabin, the north end of the passing siding at Lanesboro. The Penn Division was all CTC but the signal system was deactivated and trains operated on Norac Form Ds”. Caption by Gordon Smith.



“Now heading for SW Cabin at Nineveh, the train is at Windsor, NY.” Caption by Gordon Smith.

164. *Oneonta Roundhouse, Stalls 17 thru 28, circa 1910*; labeled photo from Stacy Gardner on August 24, 2020:



View looking east/northeast from inside the roundhouse area at several of the ALco/Deckson built (1902 - 1906) E-3a Class 2-8-0 locomotives. No. 837 is on the electrically operated 75' turntable after having exited one of the 52 stalls or is being positioned to enter one of the stalls/leave the roundhouse area.

PHOTO: HOWARD OTHOUS - TRAINWEB.ORG

D&H RAILROAD Co.
ONEONTA, NEW YORK
"52 STALL ROUNDHOUSE"

CIRCA 1910

165. This is not a D&H breaker. It's the Sugar Notch Breaker No. 9 that was owned by the Lehigh and Wilkes-Barre Coal Co. Photo owned by yawfit@verizon.net, with identification by Joe Klapach and Carl Orachevsky, August 31, 2020:



Sugar Notch Breaker No. 9, Lehigh and Wilkes-Barre Coal Co.

166. Additional information on Monkey Run Park, Main and Froble Streets, Simpson, PA:

“Monkey Run” was the popular name of the Hungarian community at the Northwest Breaker, Simpson. Material on that community is presented in three of S. R. Powell’s D&H volumes: IV, p. 209, XVIII, pp. 291-303, and XXIII, p. 114.

In a scrapbook in the collection of the Carbondale Historical Society, we discovered, on September 3, 2020, a copy of an article, titled “Simpson Park” by Matt Reavy that was published in the October 8, 1986 issue of the *Carbondale News*.

In that article, there is a photo of Stephen “Cy” Voyce (24 Froble Street) and John Bolak (73 Main Street), as they stand by Monkey Run Monument (valued at more than \$3,000, and donated and erected by Gabriel and Cieciora Monuments). They are the only remaining members of the 30-member committee which met at the Simpson VFW post in 1979 for the purpose of establishing the park and installing a monument.

With financial support from U. S. Congressman Joseph McDade, and landscaping work by the U. S. Army Corps of Engineers, Lackawanna County Parks and Recreation Commission, County Commissioner Joseph Corcoran, the Lackawanna County Vocational Technical School, and CETA employees, Monkey Run Park, after seven years of work on the part of Bolak and Voyce, with help from Bill Kerl, Mike Yacinovich and Stanley Parra, became a reality. Flowers were planted in the park by Deddi Hanchak, Ceil Krenetsky, Jane Notchick, and Ann Voyce.

167. “D&H Gravity Railroad and Mines Shut Down by Horse Epidemic in 1872” by S. Robert Powell. Shown below is the copy of the article as submitted for publication, followed by a copy of the article as published in the *BLHS Bulletin*, September 2020, pp. 16-18.

D&H Gravity Railroad and Mines Shut Down by Horse Epidemic in 1872

S. Robert Powell, Ph.D.

In late September 1872, the first cases of a mysterious disease among horses were reported in the province of Ontario, Canada. That was the beginning of an epizootic outbreak of equine influenza, which came to be known as *The Great Epizootic of 1872*. The epidemic lasted for 50 weeks, and is generally regarded as the most destructive episode of equine influenza in recorded history.

By October 1, the first case occurred in Toronto, and the illness quickly swept through the urban horse population there. All the street car horses and major livery stables were affected within only three days. By the middle of October, the disease had reached Montreal, Detroit, and New England. On October 25, 1872, *The New York Times* reported that nearly all public stables in New York City had been affected, and that the majority of the horses owned in the private sector had essentially been rendered useless to their owners. Only days later, the *New York Times* reported that 95% of all horses in Rochester, New York, had been affected, and that the disease was also making its way quickly through the state of Maine and had already affected all fire horses in the city of Providence, Rhode Island. The disease quickly spread through North America from the Atlantic to the Pacific and into part of Central America.

From the 1870 census, we learn that there were 7.1 million horses and 1.1 million mules in America at the time. Most of the horses and mules in America at the time were incapacitated by influenza for a week or two. About 1 percent died, the rest fully recovered. An 1872 report on equine influenza described the disease as "An epizootic specific fever of a very debilitating type, with inflammation of the respiratory mucous membrane, and less frequently of other organs, having an average duration of ten to fifteen days, and not conferring immunity from a second attack in subsequent epizootics."

On October 30th, 1872, *The New York Times* reported that a complete suspension of travel had been noted in the state. The same report also took note of massive freight backups being caused by the lack of transportation ability that was arising as a result of the outbreak. Cities such as Buffalo and New York were left without effective ways to move merchandise through the streets, and even the Erie Canal was left with boats full of goods idling in its waters because they had to be pulled by horses. The street railway industry ground to a halt in late 1872.

Boston was hard hit by a major fire downtown on November 9-10, and firemen had to pull the necessary firefighting equipment to the many fires. Seven hundred buildings were destroyed. In New York, 7,000 of the city's approximately 11,000 horses fell ill, and mortality rates ranged between 1.0% and 10%. Many horses were unable to stand in their stalls. Those that could stand

coughed violently and were too weak to pull any loads or support riders. The vast majority of affected horses—save for those 10% that died as a result—were back to full health by the following spring. The height of the plague was December 14, 1872.

Every aspect of American transportation was affected. Locomotives came to a halt as coal could not be delivered to power them. Trains and ships full of cargo sat unloaded. Horse drawn tram cars stood idle and deliveries of basic community essentials were no longer being made.

In early November 1872, the horse epidemic reached Honesdale: In the November 7, 1872 issue of the *Wayne Citizen*, we read: "The Horse distemper has made its appearance in Honesdale and vicinity, although in a varied form. About one third of the horses on the Del & Hud Canal are affected, interfering greatly with coal shipment."

The horse epidemic reached Carbondale in mid-November 1872, and all aspects of life were affected. The Gravity Railroad was closed for three days; the Clifford stage did not run. The effect of the epidemic in Carbondale is described well in the article that was published in the *Carbondale Leader* on November 16, 1872, p. 3: **"THE HORSE EPIDEMIC.**—The terrible horse disease that has been raging in almost all parts of the country of late, reached this city last Saturday. Mr. Durfee found two of his horses sick and coughing on Friday evening of last week, and immediately began preparing for the disease. Extra precautions were taken, the horses kept blanketed, the stables kept clean, and a little medicine given once in a while. Saturday morning he had six on the sick list, and on Monday the whole number of sixteen or seventeen were unable to work. As soon as he found the disease had come, he refused to let any of his horses go out of town. Tuesday was a dark, rainy day, and the [omni]bus did not run to the depot to all the trains. With good care it is thought that the disease will soon run its course, and all the horses be saved.

"All the horses in Mr. Briggs's livery stable are sick, and the Honesdale stage has not been running at all this week. On Monday the mail was brought over with one horse. Some of the time, we understand, it has been carried by hand. The passengers to and from Honesdale have either been obliged to walk or ride on the gravity road, for the past week. The gravity did not run during Tuesday, Wednesday and Thursday. So the communication between here and Honesdale has been very poor indeed. / The Clifford stage has not been running during the week. The last trip was made on Saturday. The mail has been carried by hand. / There has been considerable sickness among the Company's horses and mules in this vicinity. / Mr. John Jermyn, of Gibsonburg, has a large number sick."

In November 1872, there were 2,000 loaded coal cars blockaded on the Delaware and Hudson Gravity Railroad between Carbondale and Honesdale because of the epidemic. At the same time, every D&H mule in Providence was down with equine influenza.

The epidemic continued through November, with some horses and mules now recovering, however. The Durfee omnibuses were again running to each train. The Honesdale and the Clifford stages, however, were not yet running. Many of the mines were only running partially, some not at all.

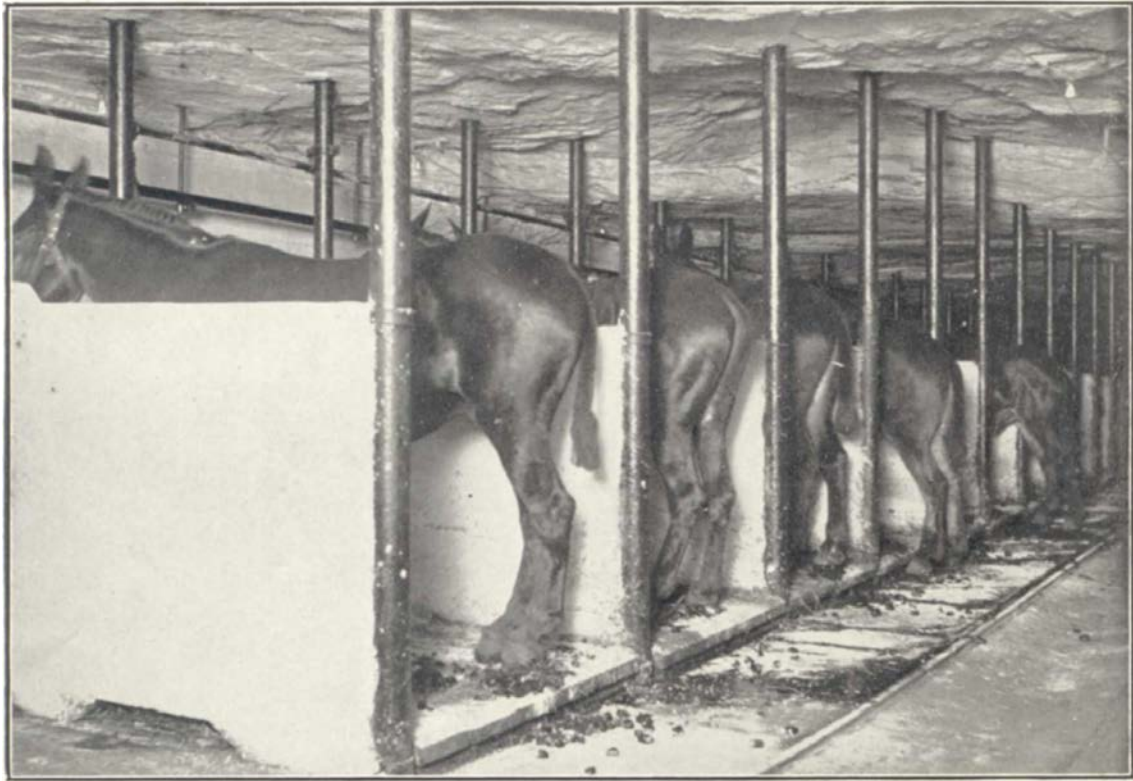


D&H Canal Boat, "Little Freddie", Loaded with Coal, Waiting to Cross the Delaware Aqueduct. The boat will be pulled across the aqueduct and then to the Hudson River by the two equines shown here. The animal on the left appears to be a horse, the one on the right appears to be a mule.

In the November 23, 1872 issue of the *Carbondale Leader*, we read: **"THE SICK HORSES.**— The horse epidemic still rages in this city and vicinity, although it has been of a mild character so far. Horses that have been well taken care of and not worked are doing well; but those who have continued working their faithful animals through thick and thin, and have not taken proper precautions against the disease, have found that they have not done that which was for the best. Some owners of horses who have had plenty of work for them to do, have, when the weather has been pleasant, taken them out and worked them a short time in the middle of the day. Others, who have looked at the matter in the right light, have kept their animals in the stables, and taken care of them. / Mr. Durfee's horses are thought to be nearly well, and he has commenced letting them again on short trips. The omnibus is now run regularly to every train. The horses in the stables of Mr. Briggs are said to be doing well. The Honesdale stage has not been running for the past two weeks. The mail has been carried over the gravity road the most of the time. The

Clifford stage is not running yet, the mail being carried by hand. / The horses and mules of the D&H C. Co. at this place are affected to a certain extent. We understand that the mules employed in the Cold Brook mines were all sick on Thursday morning, and the mines are now idle. / The Company's mines down the valley are either being worked partially or not at all. It is thought that the disease will gradually disappear, and that we shall not be troubled for want of horse help in the course of a week or two."

By the end of November, 1872, mercifully, the worst stage of the epidemic had passed in Carbondale. The Honesdale and Clifford stages were again running. Fewer ox teams were seen than earlier in the month. Things began to get back to normal. In the November 30, 1872 issue of the *Carbondale Leader*, we read: "The number of sick horses has so much decreased since last week, that the usual business activity in our streets has returned. But few ox teams are used in comparison to a week ago. The Honesdale and Clifford stages commenced running again on Monday. The mules employed in the mines are said to be nearly all doing well. It is thought that the worst stage of the disease has passed."



Fireproof Mule Barn, in the Mines

"The Great Epizootic of 1872" made it very clear to America as a whole at the time that the vitality and health of the economy of America was directly related to the vitality and health of a very important energy source: horses and mules. That is a fact that came as no surprise to "The

President, Managers and Company of the Delaware and Hudson Canal Company" at the time in that they knew well, as early as 1829, that the D&H Canal and the D&H Gravity Railroad could not have been built or operated without the help of many thousands mules and horses. Similarly, they knew that the Delaware and Hudson Canal Company could not have mined or marketed anthracite coal in the nineteenth century without the help of many thousands of horses and mules.

Readers who are interested in learning more about the Delaware and Hudson's working horses and mules can do so by referring to Volume VII in the author's D&H series. See specifically "Mules and Horses on the D&H," "Horses and Mules Used to Build the Five Configurations of the Gravity Railroad and the D&H Canal," "Horses and Mules Used to Mine and Market Anthracite Coal before the Gravity Railroad Was Built," "Horses and Mules on the Gravity Railroad from October 9, 1929 to 1899," "Horses on the Valley Road, 1860," "Mules Used on Underground Planes," "Horses and Mules in the Collieries and Mines," "Mules and Horses for Work Not in Mines or on Railroad or Canal," and "Mules in the Community".

* * * * *

Shown below is the article as published in the *BLHS Bulletin*, September 2020, pp. 16-18.

For the Record

D&H Gravity Railroad and Mines Shut Down by Horse Epidemic in 1872
by S. Robert Powell, Ph.D.

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Every aspect of American transportation was affected. Locomotives came to a halt, as coal could not be delivered to power them. Trains and ships full of cargo sat unloaded. Horse-drawn tram cars stood idle and deliveries of basic community essentials were no longer being made.

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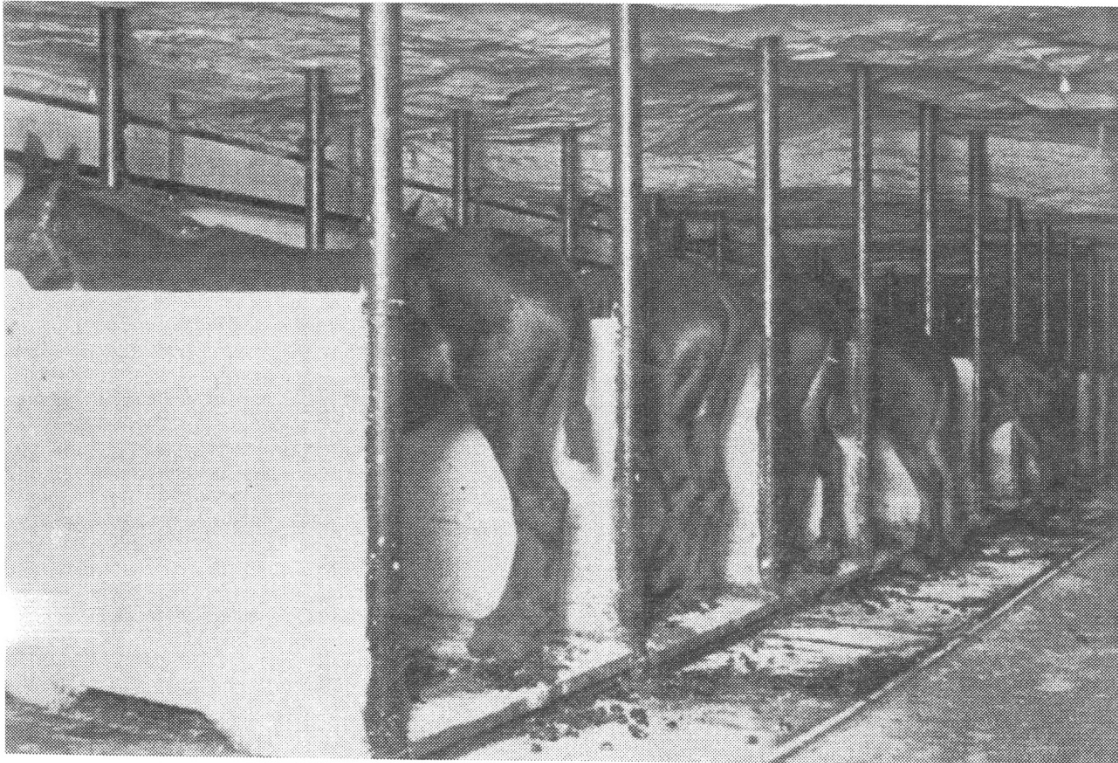
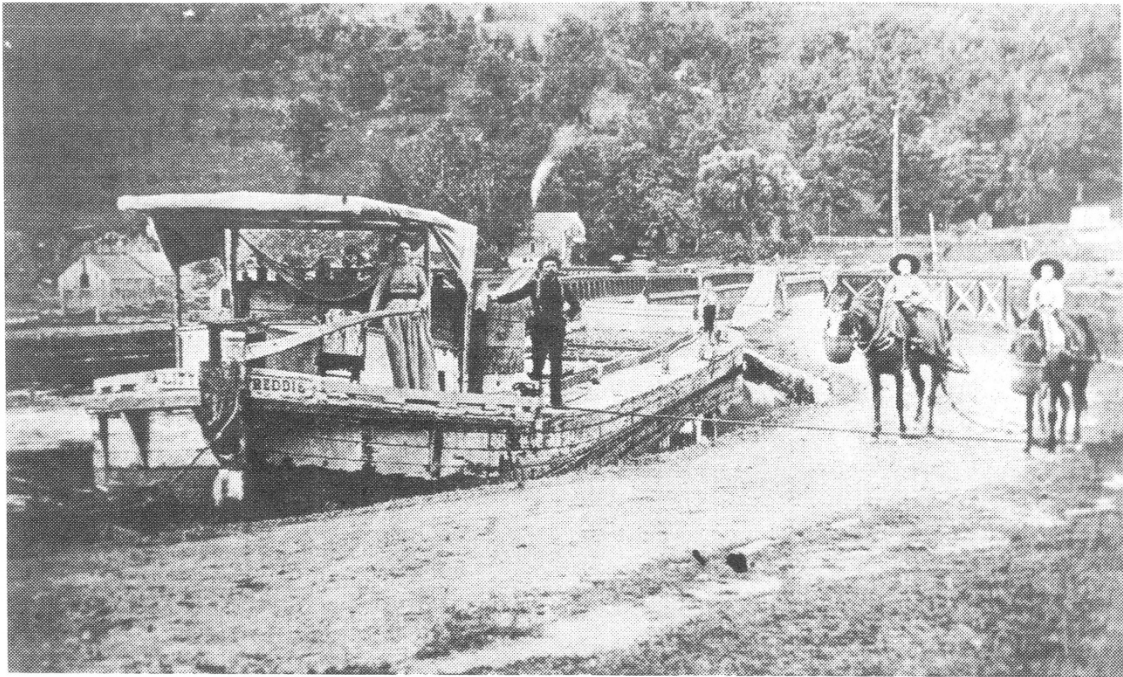
"All the horses in Mr. Briggs's livery stable are sick, and the Honesdale stage has not been running at all this week. On Monday, the mail was brought over with one horse. Some of the time, we understand, it has been carried by hand. The passengers to and from Honesdale have either been obliged to walk or ride on the gravity road for the past week. The

continued on page 18

Page 17:

Top: D&H Canal boats were often run by families, who would live on board during the shipping season. Here, Mom guards her prized flowerpots, two of the three kids ride the mules (complete with feed bags), and Dad oversees the operations of the "Little Freddie". From the Carbondale Historical Society Archive via Dr. S. Robert Powell.

Bottom: A D&H fireproof mule "barn", hewn from rock. Reportedly, there were mine mules that were born, worked away their lives, and eventually died in coal mines. Photo from the Carbondale Historical Society Archive via Dr. S. Robert Powell.



The exact location of the canal boat “Little Freddie” in the photograph given above on page 370 is indicated on the map detail shown below of the map of the Delaware Aqueduct from the Canadian Archives:



Location of “Little Freddie” in the photo given above on page 370

Shown here, at the left, are the photo captions that were written by the BLHS for this article. Shown, on the right, are comments regarding those captions by S. R. Powell:

Page 17:

Top: D&H Canal boats were often run by families, who would live on board during the shipping season. Here, Mom guards her prized flowerpots, two of the three kids ride the mules (complete with feed bags), and Dad oversees the operations of the "Little Freddie". From the Carbondale Historical Society Archive via Dr. S. Robert Powell.

Bottom: A D&H fireproof mule "barn", hewn from rock. Reportedly, there were mine mules that were born, worked away their lives, and eventually died in coal mines. Photo from the Carbondale Historical Society Archive via Dr. S. Robert Powell.

"...Here, Mom guards her prized flowerpots": "Mom" is not guarding anything. She has her hands on the tiller, which is connected to the rudder on the canal boat, which kept a canal boat "on course", thereby preventing it from bumping into (and damaging) another canal boat or either of the banks of the canal.

Space was very limited on the deck of a coal boat on the D&H canal, and it is highly unlikely that space would have been allocated there for a luxury item such as a pot of flowers. A pot or tub with herbs for use in cooking or for medicinal purposes, however, might have been a feature on some canal boats.

It is highly unlikely that any mules were ever born in the anthracite coal mines. A mule is the offspring of a male donkey and a female horse, and 99.9% of all the mules, in the mines or anywhere, therefore, were/are infertile/sterile. In order for a mule to be born in the mines, one would have had to (1) take into a coal mine a female horse that had mated with a donkey, and allow her to give birth there to a mule, or (2) take into a mine a female horse and a male donkey and allow them to mate, and then raise, in the mines, the mule that was born to them.

168. "The Nineteen Photographic Series of Ludolph Hensel" by S. Robert Powell:

The Nineteen Photographic Series of Ludolph Hensel

By S. Robert Powell

There are nineteen known photographic series that were produced by Ludolph Hensel of Port Jervis, NY, and Hawley, PA. Eighteen of those series consist of stereoscopic views.



Ludolph Hensel (1849-1927). During his long and highly productive career as a studio photographer, in the late-nineteenth and early-twentieth centuries, Hensel took thousands of photographs of America and of Americans. The print of this photograph of Hensel from which the copy given here was produced is in the archives of the Wayne County Historical Society.

Historians from Hawley have determined the following facts about Ludolph Hensel: He was born on January 29, 1849 in New York City and moved to Port Jervis in 1866, where he became an assistant to another photographer. In 1875, he opened his own photography studio in Port Jervis at No. 4 Front Street. In 1878 he moved to Hawley, PA, where he established a highly successful photography studio on Main Street. He died in Hawley on November 29, 1927.

Twelve of the nineteen photographic series created by Hensel were created by Hensel in the Port Jervis period of his career. Seven were produced during the Hawley years.

The specific year of publication of only two of those series is known: Series 1 and 2 (see below), both of which were published in August 1879. That fact we have learned from a newspaper story, titled "Splendid Home Stereoscopic Views", that was published in the August 2, 1879 issue of the *Carbondale Advance*. Here is that article:

"Splendid Home Stereoscopic Views. / Mr. L. Hensel, a very skillful artist of Port Jervis, N. Y., has rendered our town, and our romantic coal region, a great service. For some months past he has been engaged in taking views upon the streets of our city, and of the whole town from surrounding elevations, and also along the line of our different railroads, including many wild, weird and romantic scenes. His subjects have been well chosen, and the work done with great judgment and skill. Together they make a collection of the finest stereoscopic views that have yet been published. No pictures can surpass them in romantic beauty, and we predict for them great popularity and a wide sale everywhere. Here, especially, they have an added and still greater value. They pertain to our own homes, and surroundings, and place in a most interesting form—so that they may be enjoyed at ease in our parlors—the picturesque beauty of scenes about us. They should be upon every centre table. / The names of the different views embraced in the list will be found in our advertising columns to-day, and a full supply can be found at the store of Henry B. Jadwin, on the Public Square, Price 20 cts. each; \$2.00 per dozen." These stereocards were also on sale at Peterson's and Greeley's in Honesdale.

Given below is the detailed announcement about those "Splendid Home Stereoscopic Views" that was also published in the August 2, 1879 issue of the *Carbondale Advance*:

Stereoscopic Views
OF
CARBONDALE, PA.
AND
A RIDE OVER THE
DEL. & HUD. GRAVITY ROAD
INTO THE COAL REGIONS.

Photographed and Published by
L. HENSEL, Port Jervis, N. Y.

Th Marcy House, near Del. & Hud. Depot.
View down Main st. from the Marcy House.
View down Main st. from Wall street.
Looking up Main st. from Wall street.
View up Main st. from City Hall.
East side of Main st. looking up from City Hall.
West side of Main st. looking up from City Hall.
East side of Main st. looking down from City Hall.
West side of Main st. looking down from City Hall.
Episcopal Church, seen from Main st.
Episcopal Church, seen from the Bridge.
The Roman Catholic Church, front view.
View down Wall st. from Main street.
Jermyn Block, Wall street.
View down Church street.
View of the Churches on Church street.
Presbyterian Church, Church street.
Carbondale, seen from above the Highworks.
Head of No. 28, and Carbondale seen from above the Highworks.
Van Bergen & Co.'s Iron Foundry, 3 views.
Del. & Hud. Gravity Road Depot.

RAILROAD VIEWS;
Honesdale seen from the Head of No. 13.
The "Horse Shoe," seen from a ledge.
Looking down from the Head of No. 14.
Looking toward Depot; at Prompton, on Light Track.
Looking toward Prompton, from Head of 15.
Looking up No. 16 Plane, Passenger Train on Loaded Track.
Looking down No. 16 Plane.
Island on Keen's Lake, seen from Light Track.
Keen's Lake, seen from Head of No. 17.
The Angle at Head of No. 17 Plane.
Depot and Tracks, seen from Foot-Bridge, at Waymart.
Waymart, seen from Patterson's Hill.
Waymart, seen from Old Dumping Ground.
View down No. 18 Plane, with Passenger Train; Waymart in the distance.
View down the Valley from Head of No. 11.
Views of Shepherd's Crook.
View of Passenger Train on Shepherd's Crook.
View down Lackawanna Valley from Shepherd's Crook.
Views in Rock Cut at Shepherd's Crook.
Steep Grade at Shepherd's Crook.
View down Lackawanna Valley from above Shepherd's Crook.
View down Lackawanna Valley from Head of No. 23 Plane, at Olyphant.
Olyphant, seen from near Head of No. 23.
Grassy Island Breaker, near Peckville.
View over the Gravity Road from Grassy Island Breaker.
View of Inclined Bridges of the Del. & Hud., crossing the Lackawanna, at Peckville.
View down the Lackawanna Valley from Plane No. 26.
Views of Gravity Road from Head of No. 25.
View of Archbald from Loaded Track.
View of Archbald and Coal Breaker, seen from Railroad.
View of Railroad Bridge at Foot of No. 26.
View of Archbald and Coal Breaker, seen from Bridge at Foot of No. 26 Plane.
View of Jermyn, seen from Head of No. 27.
View of Carbondale, seen from Head of 28.

View of Van Bergen & Co.'s Foundry and Hendrick's Oil Works from Head of 28.
View of Highworks and Shops from Head of No. 28 Plane.
View of Carbondale, seen from No. 1 Plane.
View of Racket Brook Gap, seen from Railroad.
View of Racket Brook Breaker, looking up Plane No. 4.
Views of Carbondale, seen from Plane No. 4.
Views of Lackawanna Valley at Carbondale, at distance from No. 5 Plane.
Bird's-eye View of Keen's Lake.
Del. & Hud. Track crossing Keen's Lake.
Views up the Gorge at Shepherd's Crook.
Picnic Ground above Painter's Creek Falls, Shepherd's Crook.
Manville Falls on Painter's Creek, seen from above.
Manville Falls on Painter's Creek, seen from below.
Van Bergen Falls on Painter's Creek.
Devil's Slide on Painter's Creek.
Wilbur Falls, seen from the Gravity Road.
The Depot and Planes at Waymart, seen from the Highworks.
The Highworks at Waymart.
McGarry Avenue on the Gravity Road,

Price 20 cts. each ; \$2 per dozen.

For sale by **HENRY B. JADWIN.**

Jadwin's Drug Store in Carbondale where these Hensel views were on sale. See the photo of Jadwin's Drugstore on the following page.

The "Railroad Views" referenced in the above ad and article were numbered by Hensel as Nos. 1100-1166, in Series No. 1 below. The views of Carbondale referenced in the above ad and article are the Carbondale views presented in Series No. 2, where they are numbered Nos. 1167-1190.

Here is a stereoview of Jadwin's Drug Store in Carbondale where these Hensel views were on sale. This stereocard, produced by a photographer whose identity we have not yet learned, is in the collection of the Carbondale Historical Society and Museum, Inc.



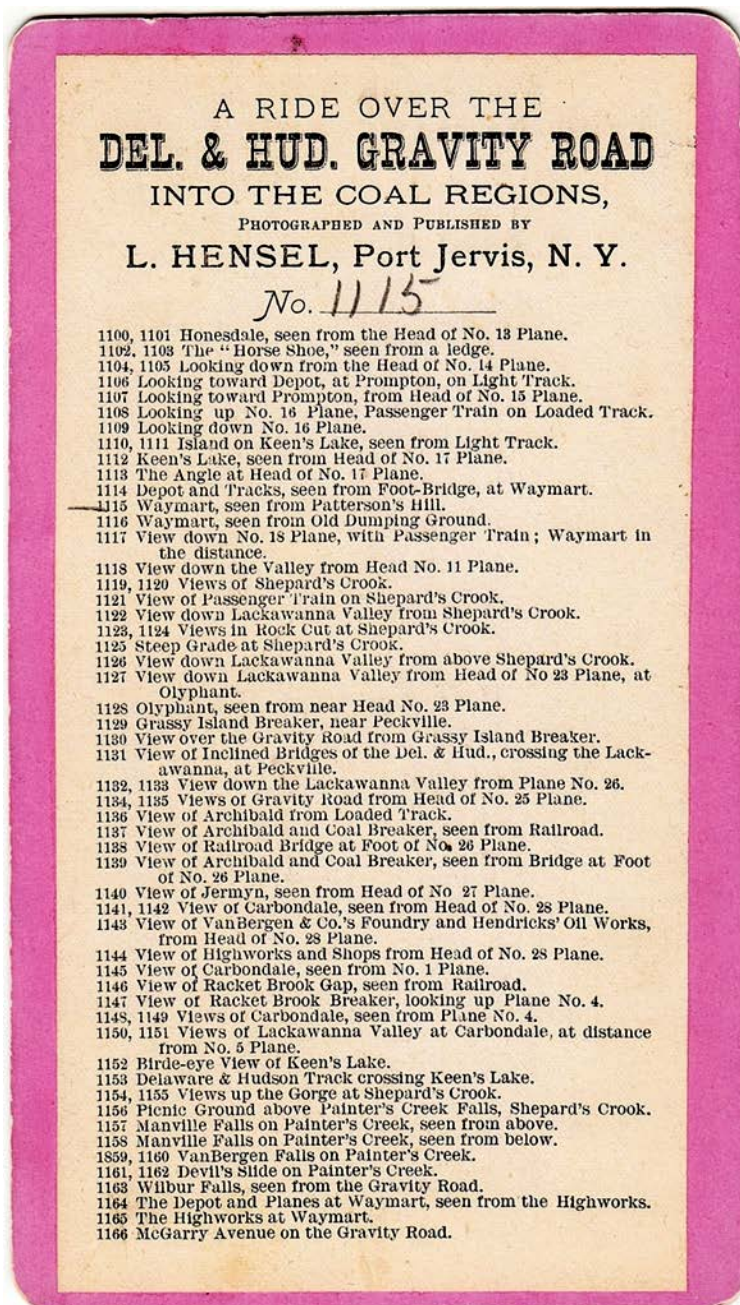
Stereocards by L. Hensel in nineteen separate series are in the collection of the Carbondale Historical Society. Series Nos. 1 and 2 were produced in 1879 (see above). The years in which Series 3-19 were produced have not yet been learned.

Shown below are the index master sheets (the back of one card in each of the nineteen series) for all nineteen series.

1. "A RIDE OVER THE DEL. & HUD. GRAVITY ROAD INTO THE COAL REGIONS, Photographed and Published by L. HENSEL, Port Jervis, N. Y." (Referenced in the above ad from the August 2, 1879 issue of the *Carbondale Advance*). All of the images in this series, Nos. 1100-1166, are stereoscopic views of the D&H Gravity Railroad. Note that there are also D&H images in the second, third, fourth, sixth, and nineteenth series referenced below.

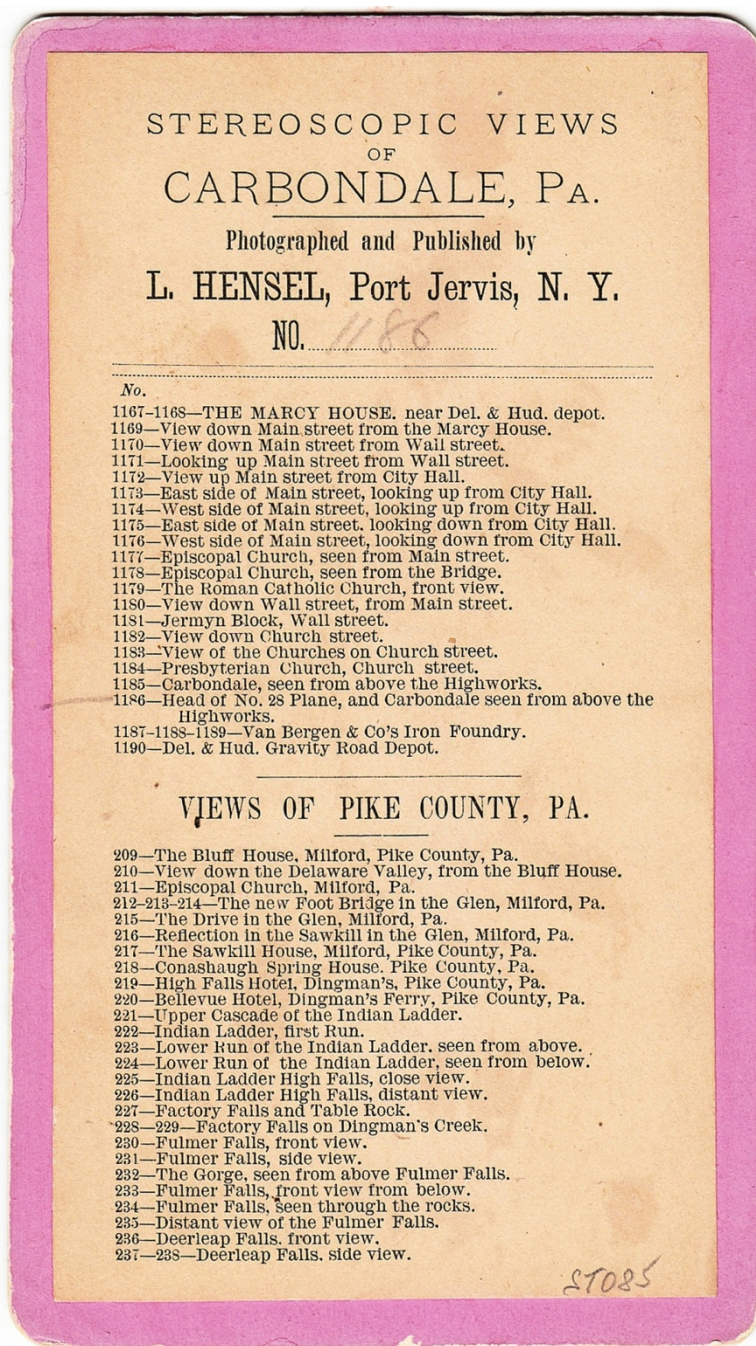
"Mr. Hensel, the artist, who took so many handsome views of Honesdale last fall, will be in town again in about two weeks for the purpose of photographing private residences and taking scenes along the Gravity." (*Honesdale Citizen*, May 22, 1879)

"L. Hensel, the artist of Port Jervis, who has been so highly successful in securing such magnificent stereoscopic views of Honesdale and vicinity, has recently engaged in similar work along the line of the Gravity Railroad from Honesdale to Olyphant. Views have been obtained of various planes, sections of the road, lakes, Shepherd's Crook, falls, coal breakers, etc. In fact, they furnish a comprehensive history of the Gravity, its workings and surroundings. These views are on sale at Petersen's and Greeley's." (*Honesdale Citizen*, July 10, 1879)



"The artist Hensel, having completed his work of taking views along the Honesdale Gravity road is now engaged in taking some of the romantic scenes along the Pennsylvania Company's road between Dunmore and Hawley." (*Wayne Independent*, August 7, 1879)

2. "Stereoscopic Views of CARBONDALE, PA. Photographed and Published by L. HENSEL, Port Jervis, N. Y." Views Nos. 1167-1190 in this series are of Carbondale. Additional views of Carbondale are given in Series Nos. 3 and 4 below. Also in this series are views of Pike County, PA: Views Nos. 209-238. Additional views of Pike County are given in the following series: 4, 5, 10, 11, 12, 13, and 18.



3. "VIEWS OF CARBONDALE, PA. Photographed and Published by L. HENSEL, HAWLEY, PA." These photographs of Carbondale and the surrounding area, which are numbered 1-50, and which were offered for sale at \$2 per dozen, are not stereoscopic views.

Carbondale

VIEWS OF CARBONDALE, PA.

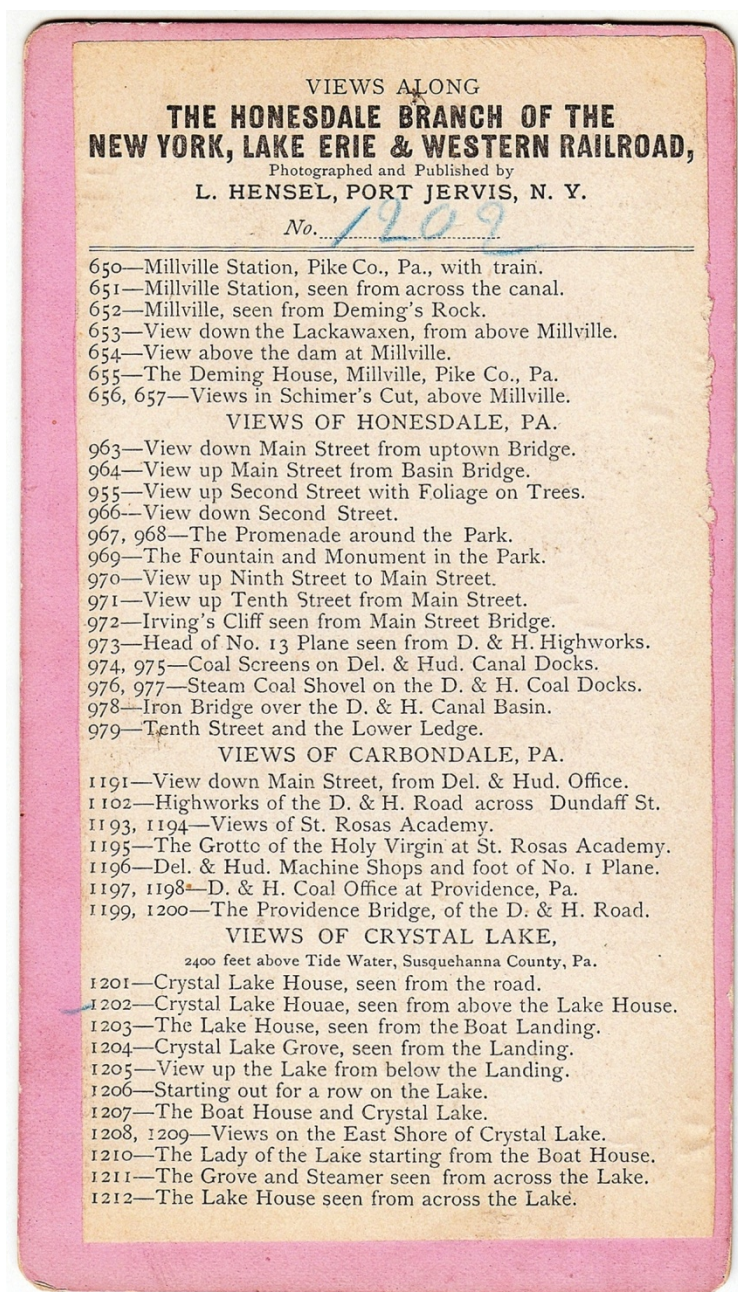
Photographed and Published by
L. HENSEL, HAWLEY, PA.

- 1—Carbondale, seen from Berkit's Hill.
- 2—Carbondale, seen from Watkin's Son & Co.'s colliery.
- 3—Carbondale, seen from head of No. 28 plane.
- 4—Lower part of Carbondale from head of No. 28 plane.
- 5—Upper part of Carbondale from the high-works.
- 6—Carbondale, from above the high-works.
- 7—No. 28 Plane and Carbondale seen from Pike street.
- 8—Carbondale, seen from above Racket Brook Breaker.
- 9—Public Park, Fountain and Soldiers Monument.
- 10—Maplewood Cemetery.
- 11—View from Cemetery street.
- 12—D. & H. Round House, seen from the Cemetery.
- 13—D. & H. Lumber yard and Coal Brook Breaker, seen from the Cemetery.
- 14—D. & H. Machine Shops.
- 15—Van Bergen & Co.'s Iron Foundry.
- 16—Carbondale Electric Street Railway.
- 17—View down Main Street from D. & H. office.
- 18—View down Main Street from Salem Street.
- 19—View up Main Street from City Hall.
- 20—Corner Main and Salem Streets.
- 21—Presbyterian Church.
- 22—Baptist Church.
- 23—Episcopal Church.
- 24—The Roman Catholic Church.
- 25—Stourbridge Lion, old boiler of the first locomotive in America, in 1829.
- 26—View up No. 1 Plane, D. & H.
- 27—Down No. 1 Plane, " "
- 28—View up No. 2 Plane, " "
- 29—Down No. 2 Plane, " "
- 30—View up No. 3 Plane, " "
- 31—The head of No. 4 Plane.
- 32—View up No. 18 Plane.
- 33—View up No. 19 Plane.
- 34—View up No. 20 Plane.
- 35—Coal Brook Breaker.
- 36—D. & H. No. 3 Shaft.
- 37—D. & H. Colliery, No. 1 Shoots.
- 38—Entrance to D. & H. No. 1 Drift Mine.
- 39—Watkin's Son & Co.'s Breaker.
- 40—Entrance to Slope Mines of Watkin's Son & Co.
- 41—Entrance to New Drift Mines, Watkin's Son & Co.
- 42—The Bellemonte Colliery.
- 43—Boys at work picking slate in the Bellemonte Breaker.
- 44—The Northwest Coal Co.'s Breaker.
- 45—View of Jermyn.
- 46—Jermyn Breaker No. 1.
- 47—Glenwood Shaft, Erie Co.
- 48—The Erie Breaker.
- 49—The Keystone Colliery, Erie Co.
- 50—View of D. & H. Railroad Co.'s Yard at Carbondale.

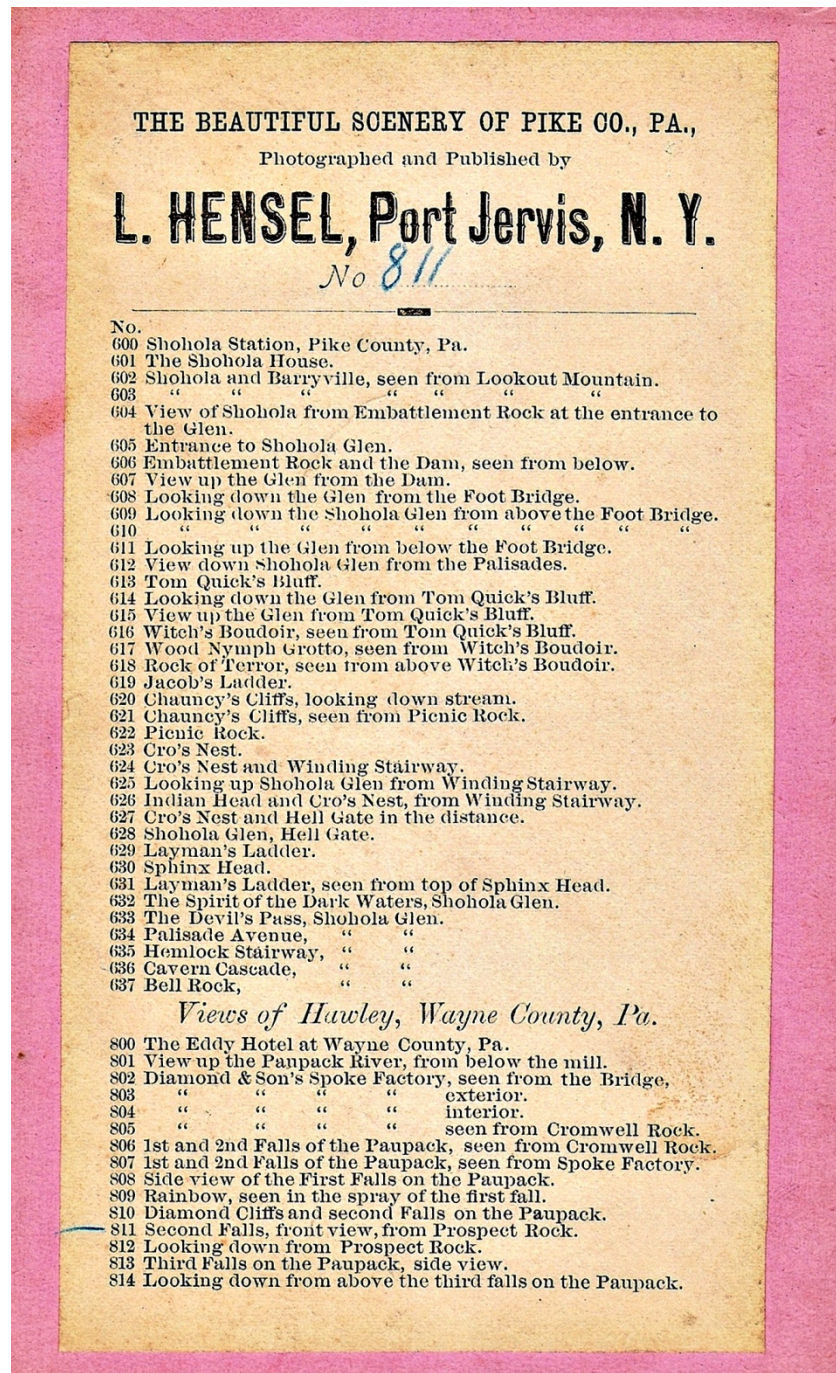
PRICE, \$2.00 PER DOZEN.

Char

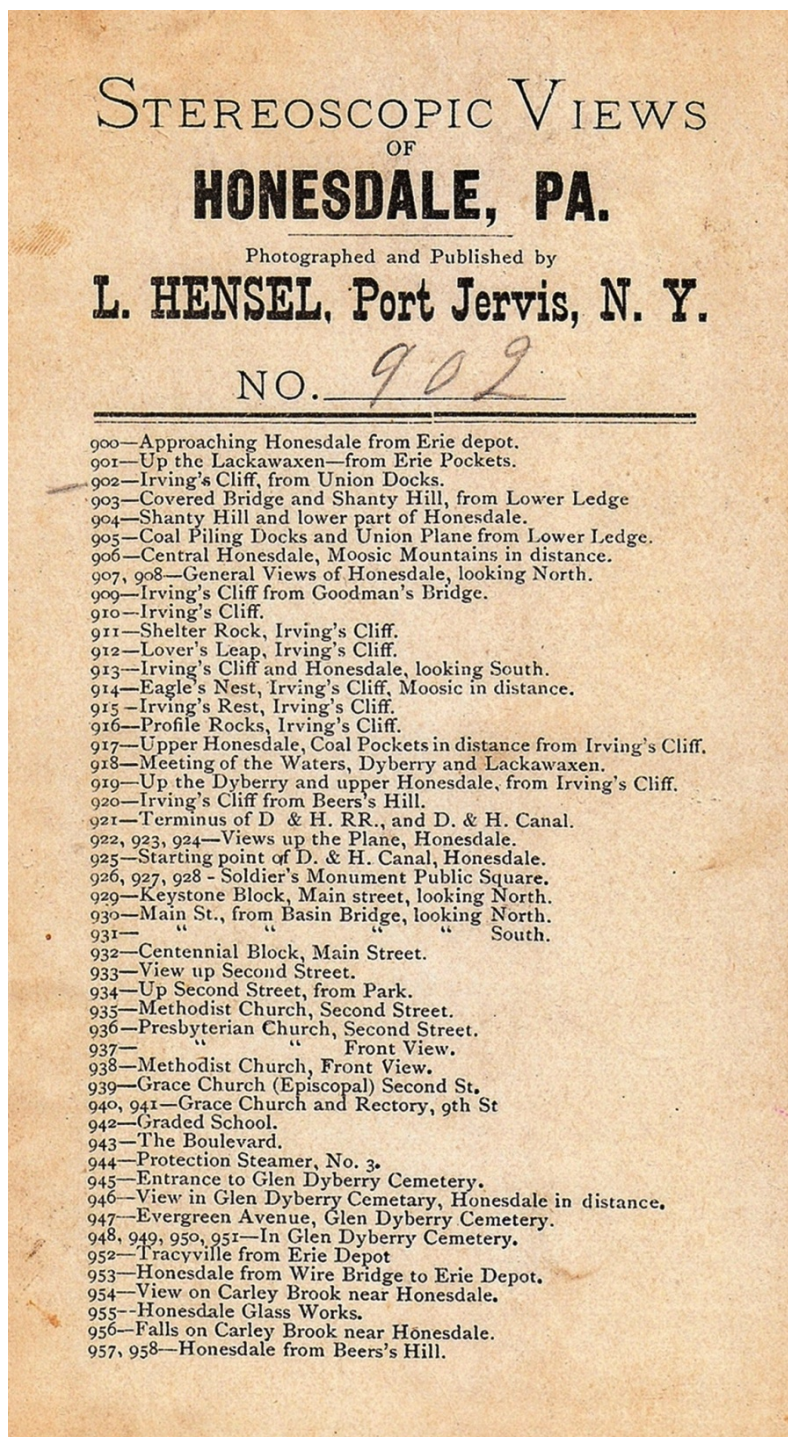
4. "Views along **THE HONESDALE BRANCH OF THE NEW YORK, LAKE ERIE & WESTERN RAILROAD**, Photographed and Published by L. HENSEL, PORT JERVIS, N. Y." Views No. 650-657 in this series are of the Honesdale Branch of the New York, Lake Erie & Western Railroad. Also in this series are views of Honesdale (Nos. 963-979); views of Carbondale (Nos. 1191-1200); and views of Crystal Lake (No. 1201-1212). These are all stereoscopic views.



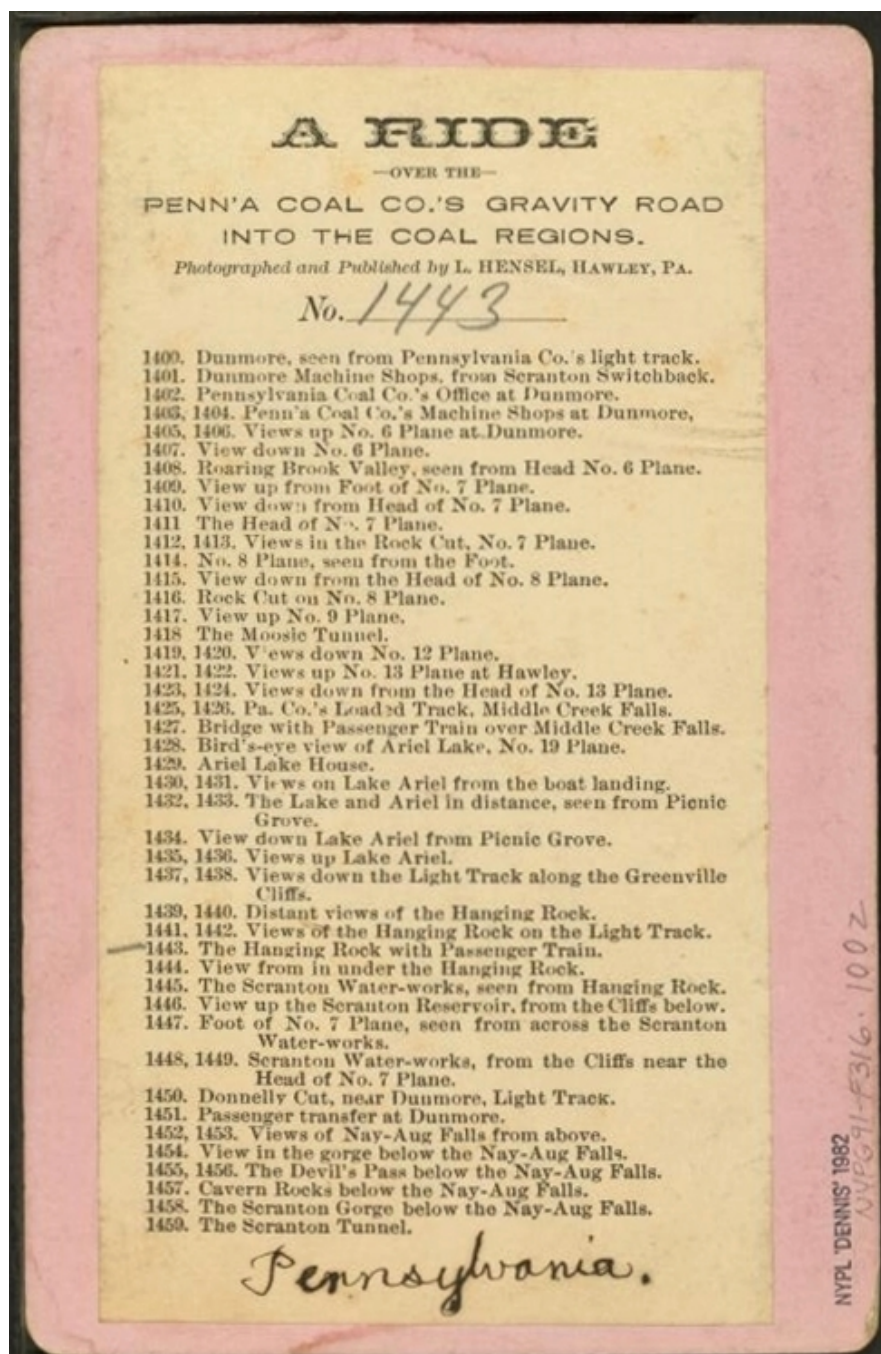
5. "THE BEAUTIFUL SCENERY OF PIKE CO., PA., Photographed and Published by L. HENSEL, Port Jervis, N. Y." Views Nos. 600-637 in this series are of Pike County; views Nos. 800-814 in this series are of Hawley, Wayne County. These are all stereoscopic views.



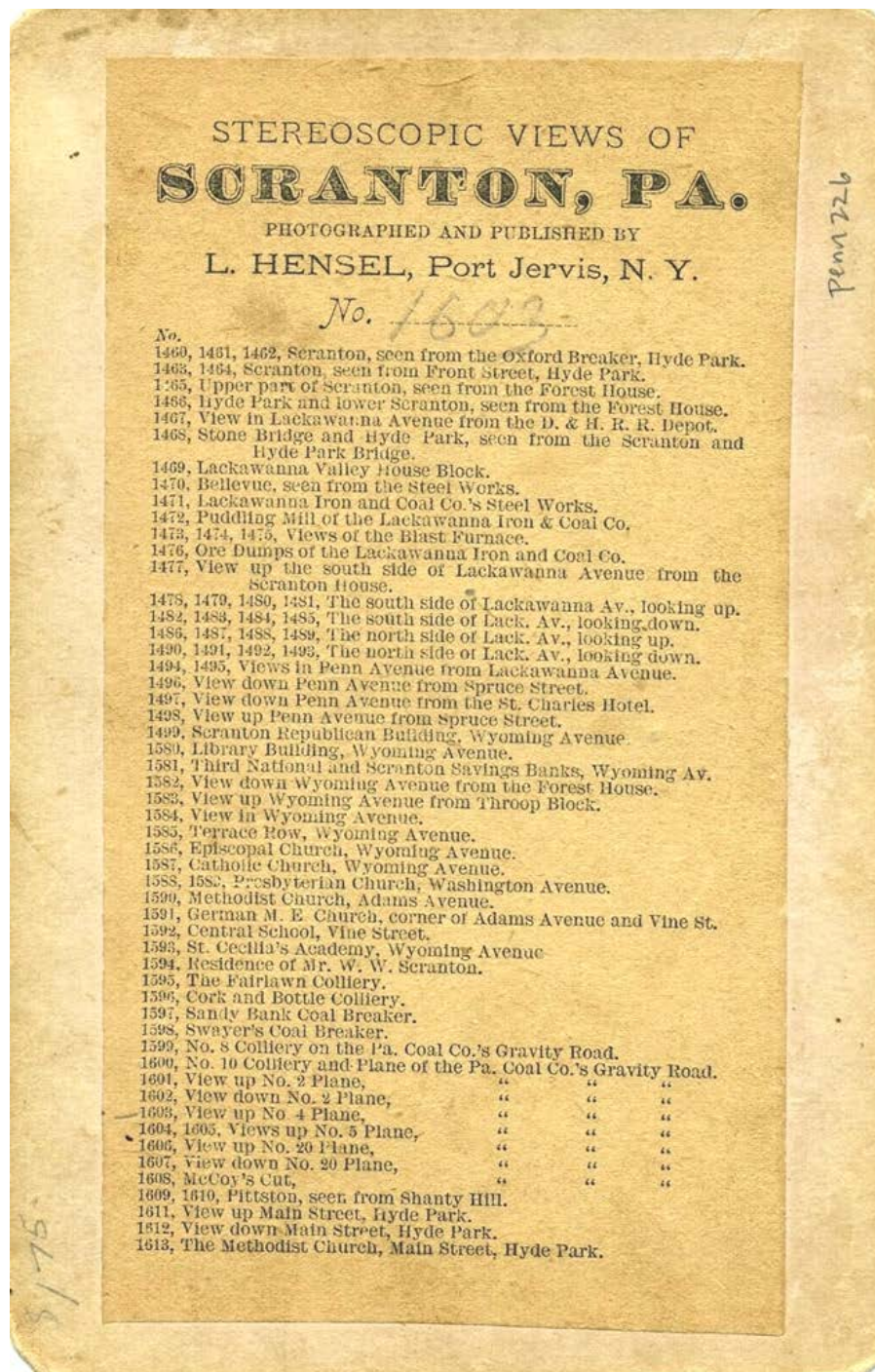
6. "Stereoscopic Views of **HONESDALE, PA.** Photographed and Published by **L. HENSEL, Port Jervis, N. Y.**" The views in this series are numbered 900-958.



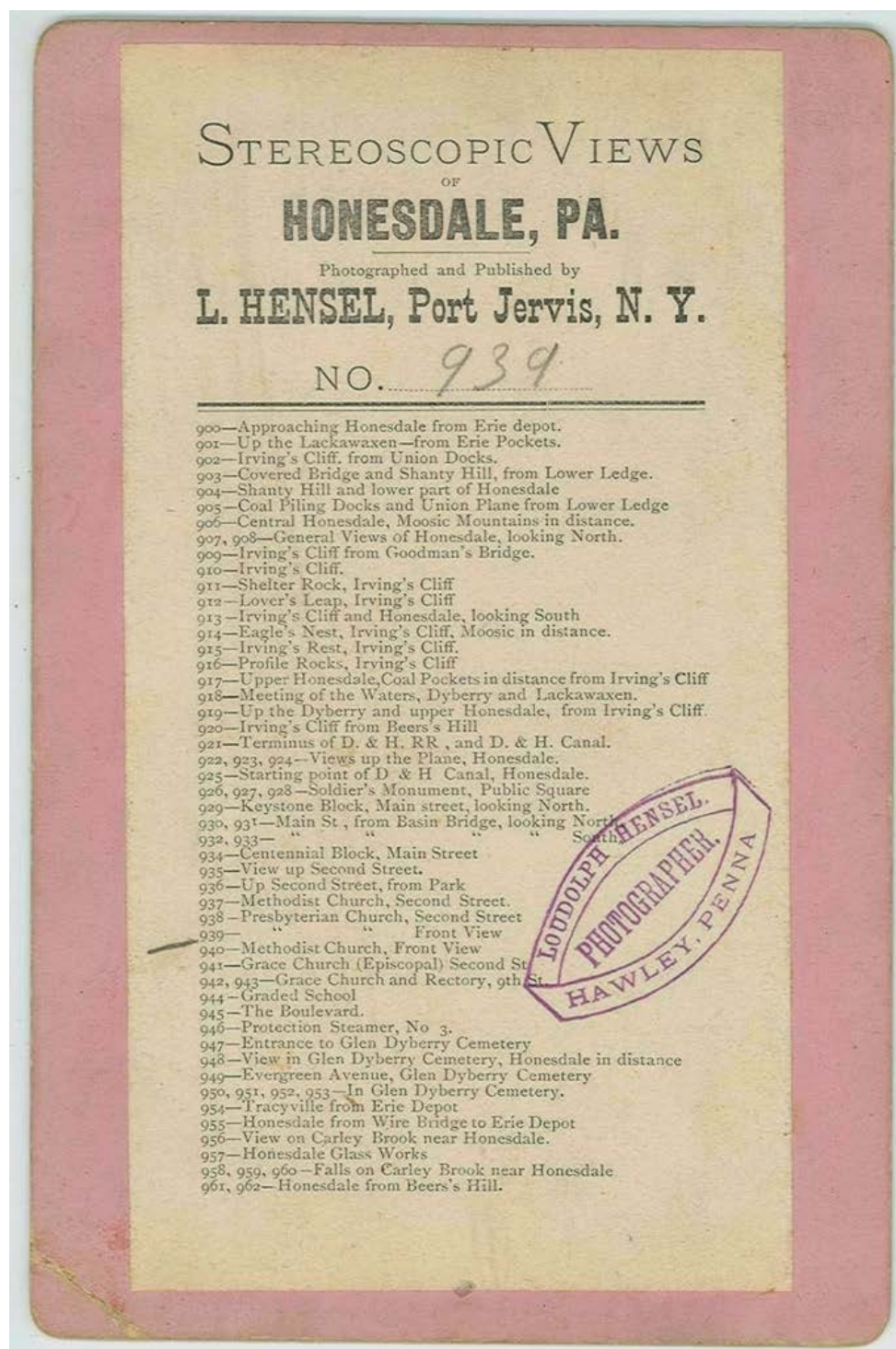
7. "A RIDE over the PENN'A COAL CO.'S GRAVITY ROAD INTO THE COAL REGIONS. Photographed and Published by L. HENSEL, Hawley, PA." These are all stereoscopic views, and they are numbered 1400-1459. See also Series No. 8, Views Nos. 1599-1608, and Series No. 19, for additional photographs of Pennsylvania Coal Company's Gravity Railroad.



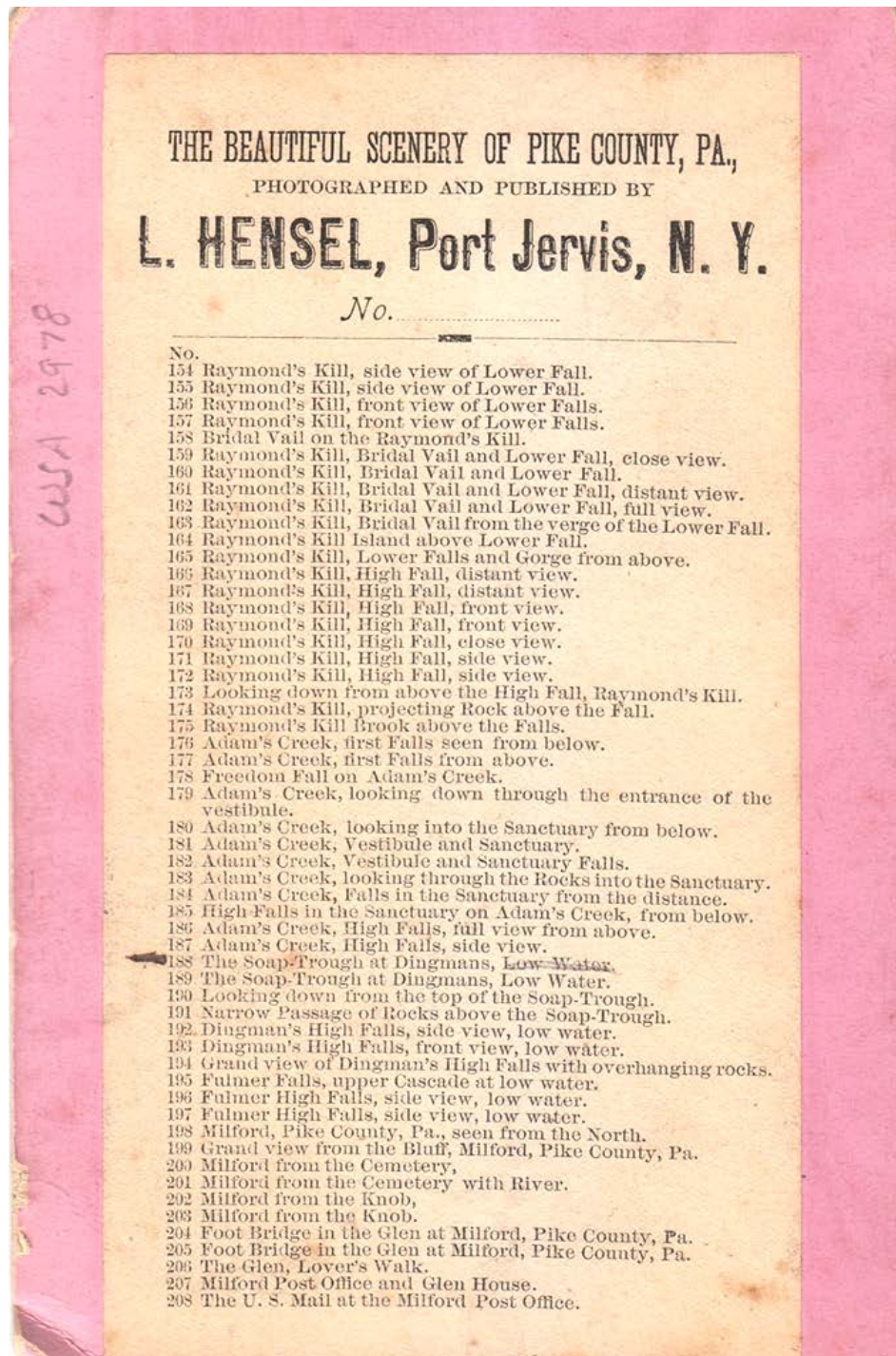
8. "STEREOSCOPIC VIEWS OF SCRANTON, PA. PHOTOGRAPHED AND PUBLISHED BY L. HENSEL, Port Jervis, N. Y." Views numbered 1460-1613. Views Nos. 1599-1608 are of the Pennsylvania Coal Company's Gravity Railroad.



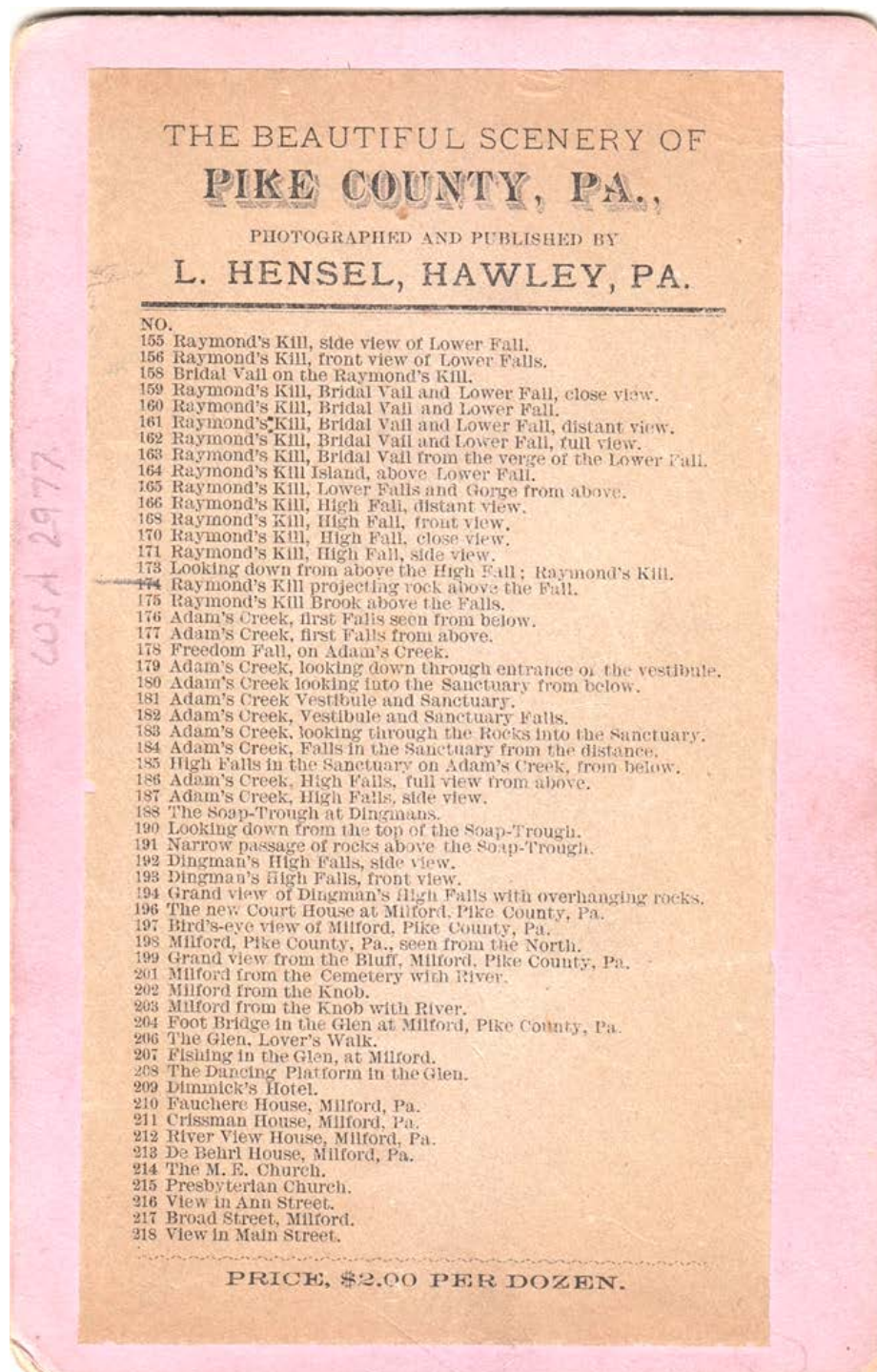
9. "STEREOSCOPIC VIEWS OF HONESDALE, PA. Photographed and Published by L. HENSEL, Port Jervis, N. Y." Views No. 900-962.



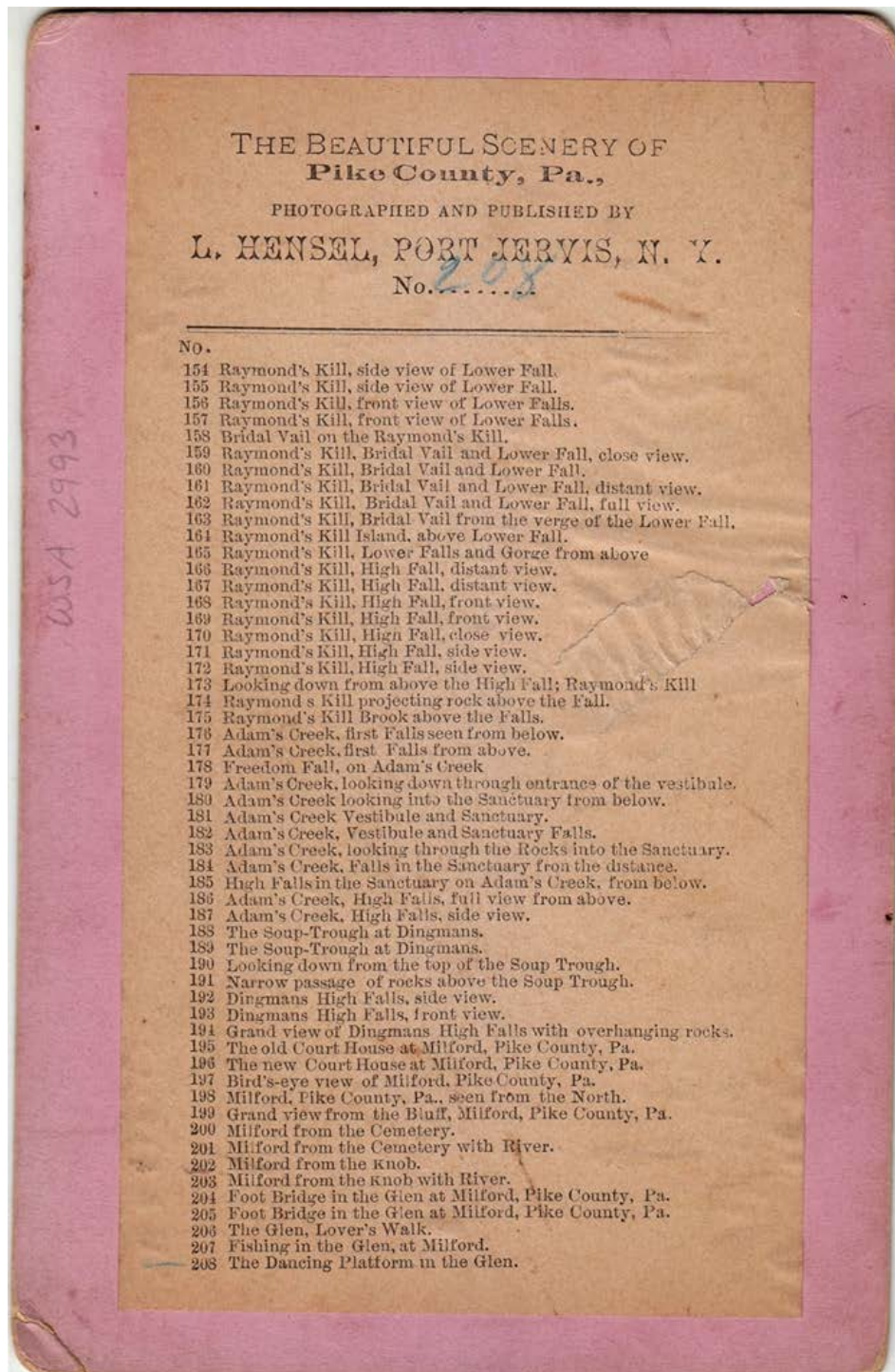
10. "THE BEAUTIFUL SCENERY OF PIKE COUNTY, PA., PHOTOGRAPHED AND PUBLISHED BY L. HENSEL, Port Jervis, N. Y." Views Nos. 154-208.



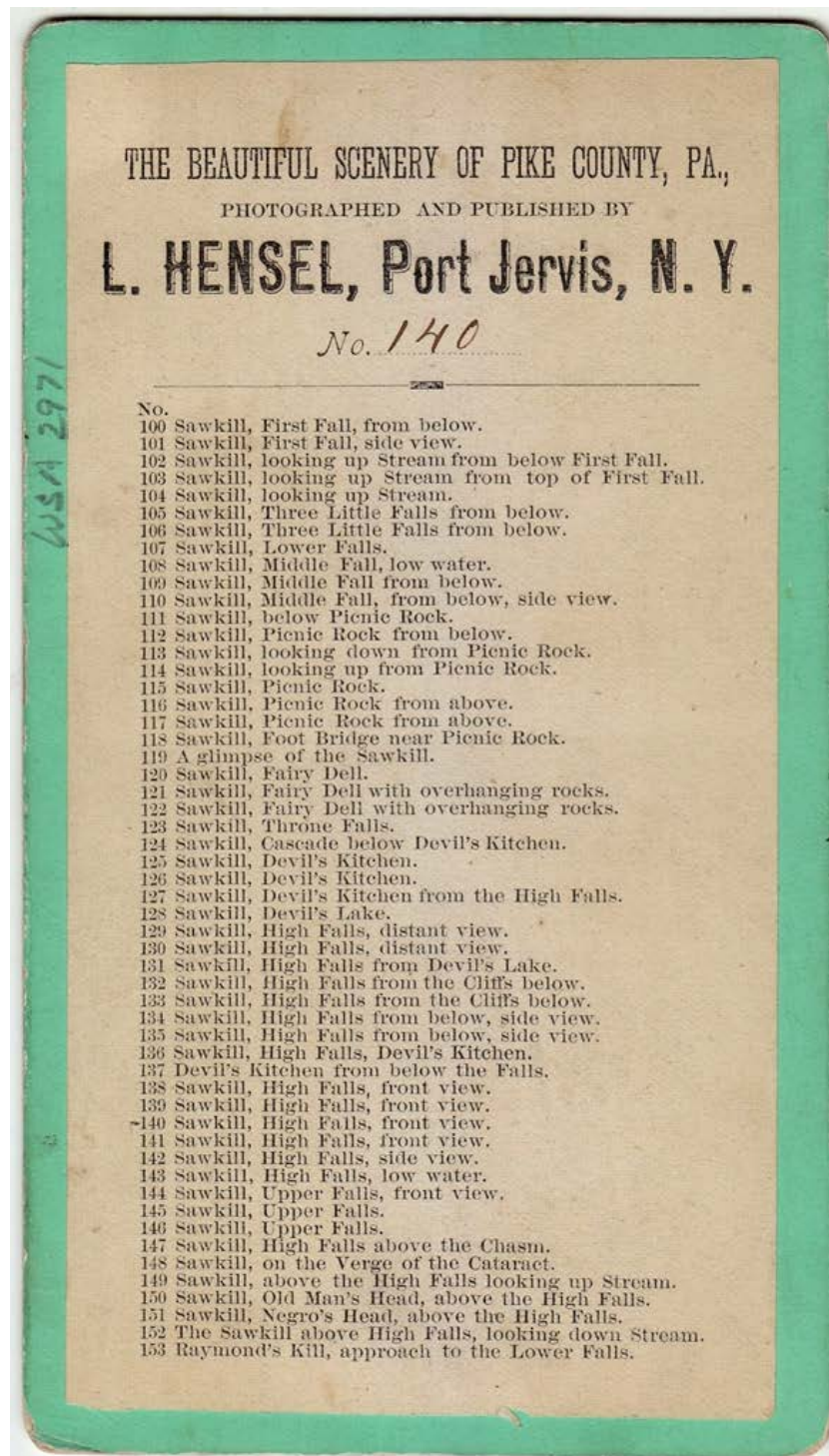
11. "THE BEAUTIFUL SCENERY OF PIKE COUNTY, PA., PHOTOGRAPHED AND PUBLISHED BY L. HENSEL, HAWLEY, PA" Views 155-218.



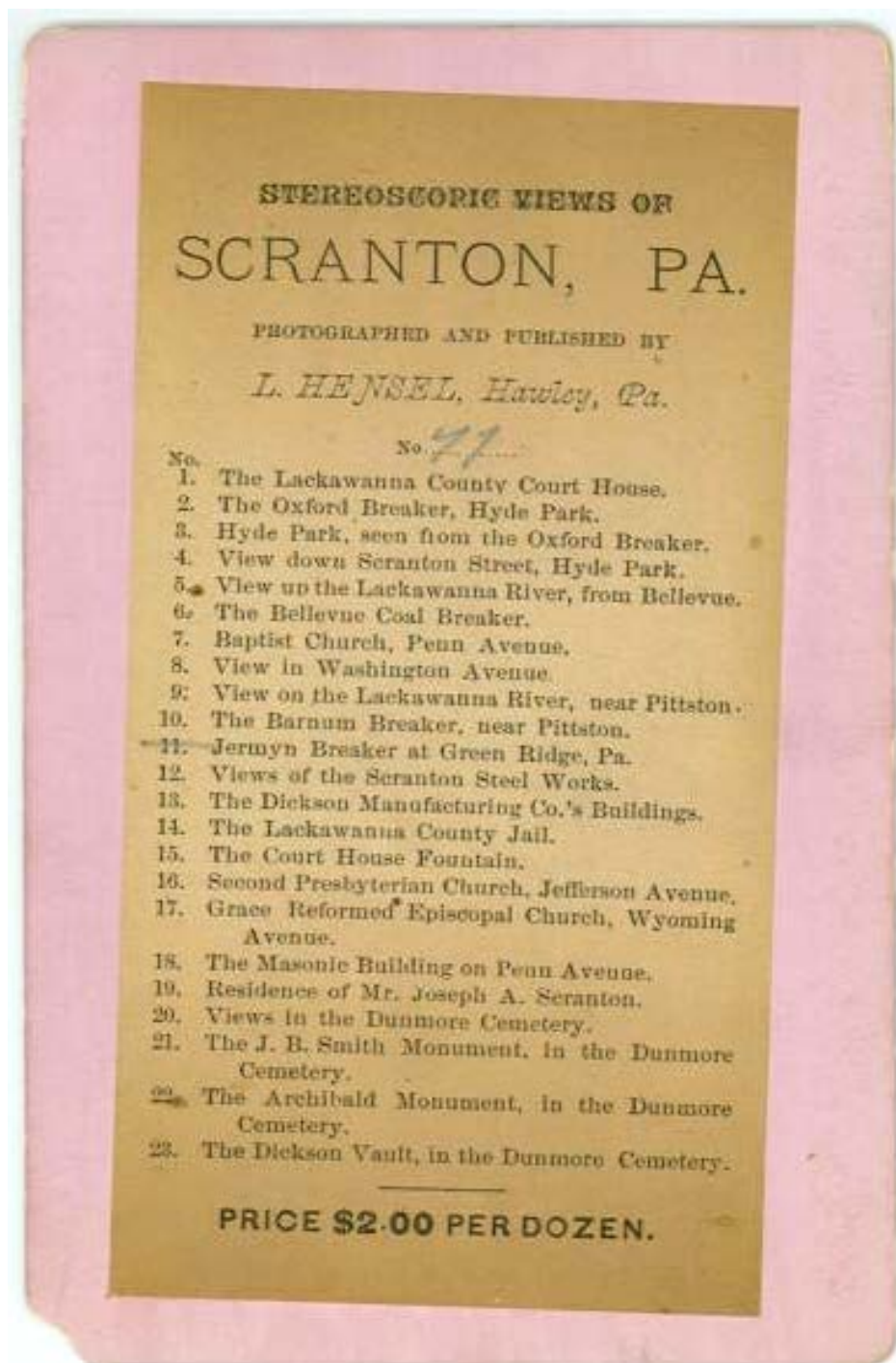
12. "THE BEAUTIFUL SCENERY OF **Pike County, Pa.**, PHOTOGRAPHED AND PUBLISHED BY L.HENSEL, PORT JERVIS, N. Y." Views 154-208.



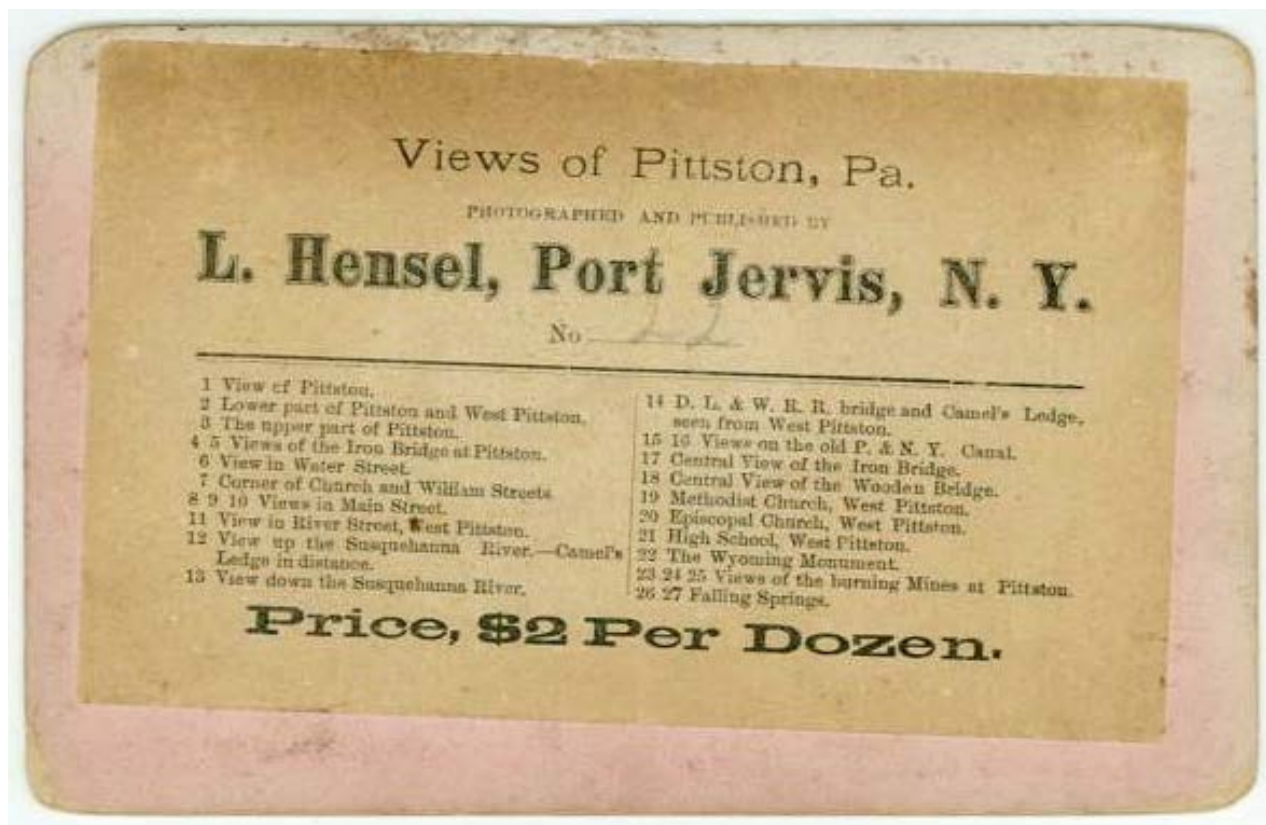
13. "THE BEAUTIFUL SCENERY OF PIKE COUNTY, PA., PHOTOGRAPHED AND PUBLISHED BY L. HENSEL, Port Jervis, N. Y." Views Nos. 100- 153.



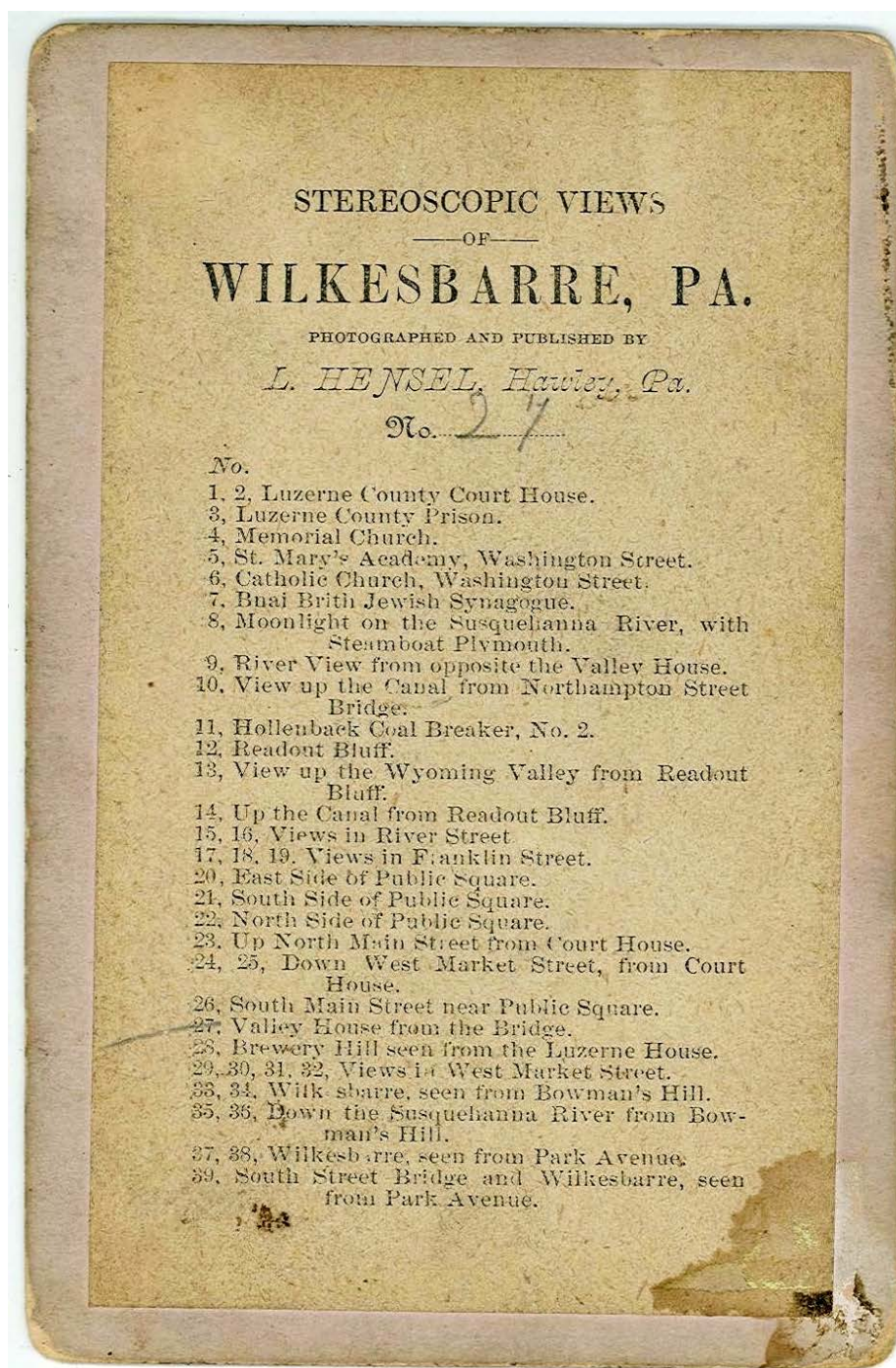
14. "STEREOSCOPIC VIEWS OF SCRANTON, PA. Photographed and Published by L. HENSEL, Hawley, Pa." Views 1-23.



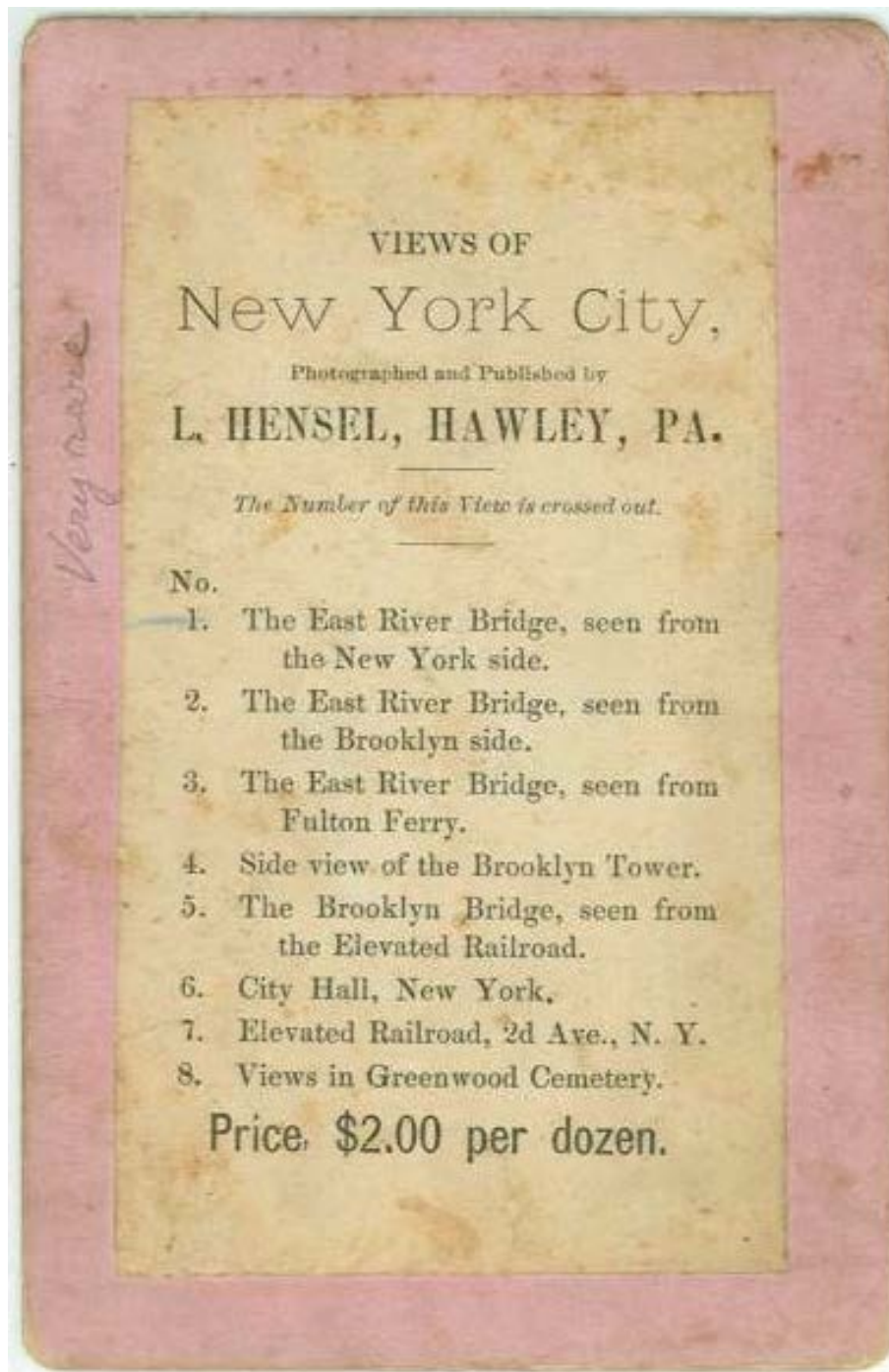
15. "Views of Pittston, Pa. Photographed and Published by L. Hensel, Port Jervis, N. Y."
Views Nos. 1-27.



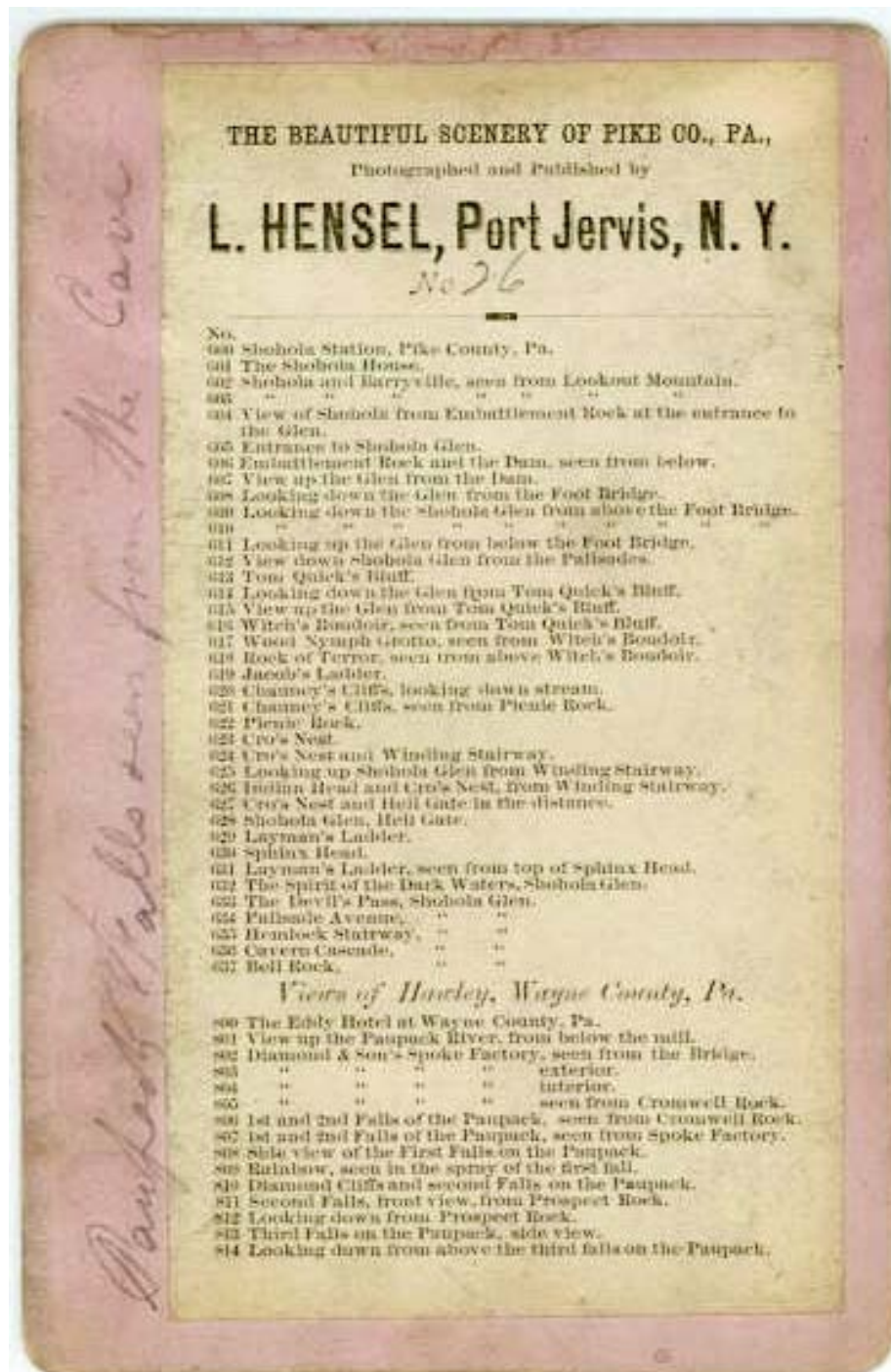
16. "STEREOSCOPIC VIEWS of **WILKESBARRE, PA.** PHOTOGRAPHED AND PUBLISHED BY L. HENSEL, Hawley, Pa." Views Nos. 1-39.



17. "VIEWS OF New York City, Photographed and Published by L. HENSEL, HAWLEY, PA." Views Nos. 1-8.



18. "THE BEAUTIFUL SCENERY OF PIKE CO., PA., Photographed and Published by L. HENSEL, Port Jervis, N. Y." Views Nos. 000-037 (Views of Pike County); Nos. 000-014 (Views of Hawley).



19. "VIEWS OF Hawley, Wayne County, Pa. PHOTOGRAPHED AND PUBLISHED BY L. HENSEL, Hawley, Wayne County, Pa." Views Nos. 1-40.

VIEWS OF
Hawley, Wayne County, Pa.
PHOTOGRAPHED AND PUBLISHED BY
L. HENSEL, Hawley, Wayne County, Pa.

The Number of this View is Crossed out.

No.

1. The Graded School.
2. The Methodist Church.
3. The Presbyterian Church.
4. West Hawley, seen from the Graded School.
5. East Hawley, seen from the Graded School.
6. West Hawley, looking east.
7. West Hawley, seen from the Paupack road.
8. West Hawley, seen from the Highworks.
9. D. & H. Canal Basin, seen from the Highworks.
10. View down the Erie track from the Highworks.
11. The Coal Docks and Canal Basin, seen from the Keystone Hotel.
12. West Hawley, seen from the new road.
13. View of the Coal Pockets.
14. Coal Pockets and Breaker, seen from above the Barrett bridge.
15. View in Main street.
16. View in Church street.
17. View down the valley from above East Hawley depot.
18. Masonic Hall.
19. The Iron Bridge, East Hawley.
20. East Hawley, seen from above the Canal.
21. Railroad Bridge and Highworks, seen from the Canal Basin.
22. View on the D. & H. Canal.
23. Rock Lock, on the D. & H. Canal, near Hawley.
24. The Coal Office.
25. View up the Lackawaxen from the Highworks.
26. Paupack Falls, seen from the Cave.
27. Paupack Falls and Silk Mills, seen from the Eddy Cemetery.
28. Winter view on the Paupack.
29. The Hawley Glass Works.
30. The Hawley Glass Works, seen from the new road.
31. The Silk Mill Boarding House.
32. The Bellemonte Silk Mills.
33. The Silk Mills, seen from the Railroad.
34. Interior view of the Silk Mills.
35. Wilsonville, seen from the Knob.
36. Fairview Lake.
37. The Club House at Fairview Lake.
38. Paupack Falls.
39. Paupack Falls and Silk Mills.
40. View down the valley from the Wilsonville road.

PRICE \$2.00 PER DOZEN.

Such, then, are the indexes for the nineteen known photographic series that were created by Ludolph Hensel. The chronological order in which these series were created has not yet been established. Here are some facts to consider in establishing a chronology for these Hensel photographic series. It is known that:

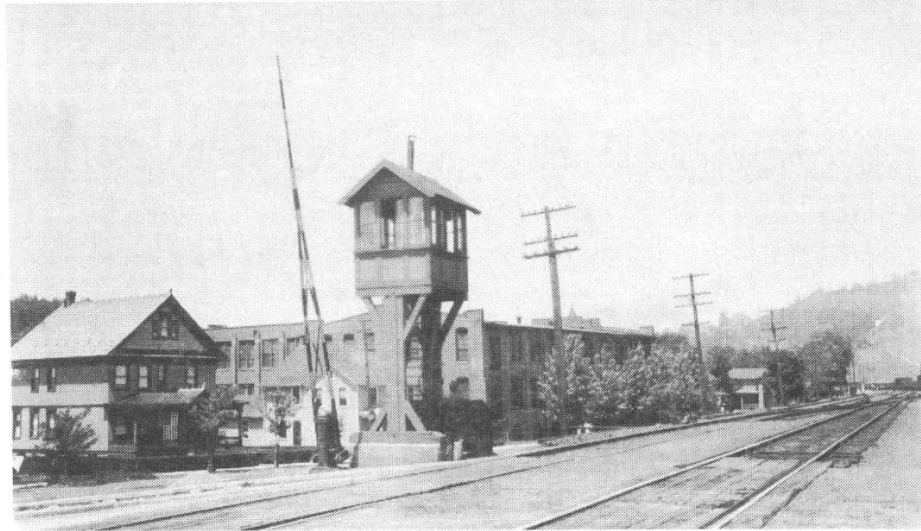
- Series 1 and 2 were published in 1879 (see pp. 2-4, above).
- Hensel moved from New York City to Port Jervis in 1866, and became a photographic assistant to another photographer.
- Hensel opened his own studio in Port Jervis, at No. 4 Front Street, in 1875.
- Hensel moved to Hawley in 1878, and in 1882 built his own studio.
- Hensel's studio in Hawley burned in 1887, and Hensel then built a new studio.
- Hensel's address, as given on the index on the back of twelve of the series presented above (Series No. 1, 2, 4, 5, 6, 8, 9, 10, 12, 13, 15, and 18), is Port Jervis.
- Hensel's address, as given on the index on the back of seven of the series presented above (Series Nos. 3, 7, 11, 14, 16, 17, and 19), is Hawley.
- Series No. 17, in which the Brooklyn Bridge is featured, was probably created in 1883, when the Brooklyn bridge, also known as the East River Bridge, was completed and opened.

In the years ahead, additional photographic series created by Ludolph Hensel may well surface, in which case they can easily be added to the list of series presented here.

* * * * *

169. Upper Lackawanna Valley material in the September 2020 issue of the *BLHS Bulletin*:

p. 13:

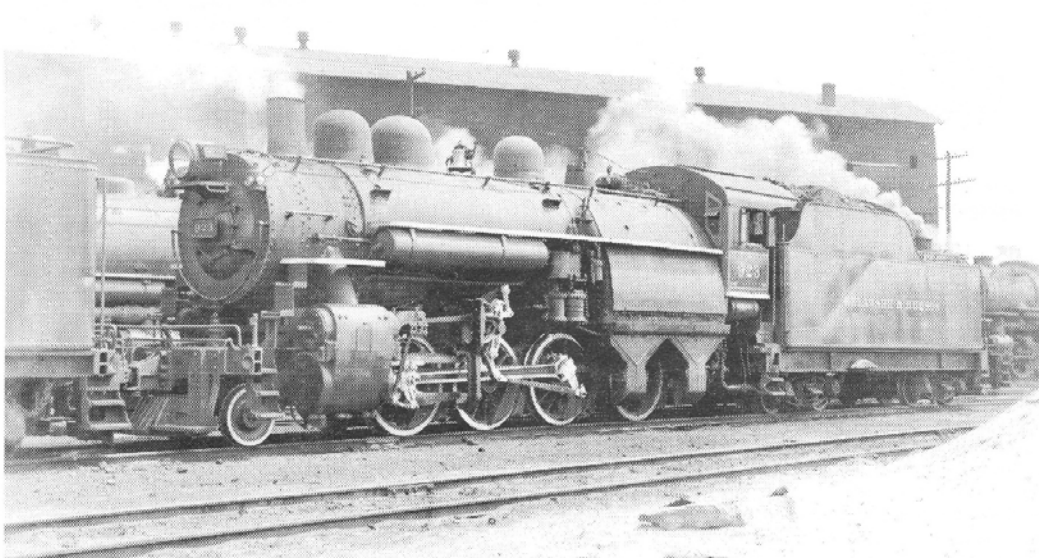


BLHS Bulletin - September 2020

13

The classic D&H main line: *The Gate Tower at Pike Street in Archbald, Pa. on June 21, 1917.* The tower lasted until September 23, 1964. BLHS Archives, scan by Mike Bischak.

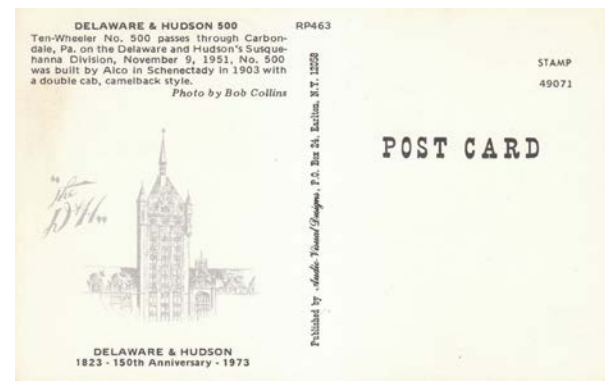
p. 21



D&H 2-8-0 #923, Class E3a, at the Carbondale, Pa. Engine Facility, July 5, 1948, photo from Carl P. Munck, collection of Jim Lafayette.

170. Olyphant or Carbondale?

In the Bob Collins photograph of D&H No. 500 on the post card shown below, we see D&H No. 500, leading a baggage car, a mail car, and two or three passenger coaches, having just crossed one of the two truss bridges (the one on the west) seen in the Collins photograph which, we learn from the printed caption on the post card, was taken in Carbondale. (For the record: D&H No. 500 was built by ALCo in 1903 as a camelback style locomotive, and later rebuilt in the Carbondale D&H shops. This engine was involved in a train wreck just outside of Sidney, NY in 1908, and was heavily damaged.)



There are some D&H enthusiasts who maintain that this photograph was taken in Olyphant and that the photo location given on the post card is incorrect. In support of their argument, they point out that there are two truss bridges in this Collins photograph and that there are two truss bridges in Olyphant (see photo given below), both of which are extant at the present time.



**D&H RAILROAD TWIN THRU-TRUSS BRIDGES OVER THE LACKAWANNA RIVER
OLYPHANT, PA.**

AKA "WONDERLAND GATEWAY RAILROAD BRIDGE"

PHOTO: ANDY PALUMBO BLOG SITE

In support of their “Olyphant not Carbondale” argument, in addition, they point out that there is only one truss bridge in Carbondale at the present time (see the photo given below of that bridge) and that there wasn’t enough room for two truss bridges, side by side, on the D&H main line into Carbondale.



It’s Carbondale not Olyphant: In the “D&H Nationalization photos, 1915-1919” in the archives of the Bridge Line Historical Society, we have located the photo given below, taken on June 22, 1917, of the D&H Gate Tower at Pike Street in Carbondale. In this view, looking north from Pike Street, we see the two truss bridges in Carbondale that are shown in the Collins photograph on the post card shown above.

The two truss bridges seen in the Collins photograph



Gate Tower, Pike Street, Carbondale. (This photo is in item No. 20, photo No. 20, in *Addendum III*). The two truss bridges on the D&H main line into Carbondale are clearly seen in this photo taken on June 22, 1917.